

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2062.—VOL. XLV.

LONDON, SATURDAY, FEBRUARY 27, 1875.

WITH SUPPLEMENT. PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

J. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

Business transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Bonds, Railways, Miscellaneous, Insurance, Assurance, Gas, and Dock Shares.
Business negotiated in Shares not having a general market value.
Accounts opened for the Fortnightly Settlement.
Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

REAL DEALINGS in the following or any part:—25 Bilson, £10½; 50 Cardiff, £4 10s.; 15 Cedar Creek, 35s.; 50 Chapel House, £4 1s. 3d. (ex div.); 100 Great Western Colliery; 50 Galsdale Quarry; 100 Gold Run, 25 Grosvenor, £3; 50 Javali, 9s.; 10 Langdale Chemical; 75 Lawes ditto; 25 Glos; 5 Newport Abercrombie, £3½; 50 Old Trebutgett (ordinary), 7s. 9d.; 25 Parys Mountain, 5s.; 75 Penrith, 12s. 3d.; 50 Pennerley, 31s.; 25 Prince of Wales, 5s. 6d.; 200 Positive Assurance, 14s.; 20 Thorp's Gawber, £12½ (ex div.); 50 Van Consoles, £1½; 10 West Mostyn, £2½; 50 West Tankerville, 21s.; 50 Wheel Peavor.

SHARES SOLD FOR FORWARD DELIVERY (one or two months) ON DEPOSIT OF A CERT. —SPECIAL BUSINESS IN CHAPEL HOUSE COLLIERY shares, yielding at present, upwards of 17 per cent., with every probability of an important increase. JAVALI, OLD TREBUTGETT, THORP'S GAWBER, and GALSDALE QUARRY.

R. W. H. BUMPUS, STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.

Business in MINING and COLLIERY Shares of every description, British and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT or SPECULATION.

Purchases and Sales negotiated in Unmarketable Stocks and Shares. Speculative Accounts opened for the Fortnightly Settlement. References given and required when necessary.

Stock and Share List forwarded to bona fide Investors free on application. Bankers: The National Provincial Bank of England, E.C.

H. B. has SPECIAL BUSINESS in the undermentioned:—

25 Bilson, £10½; 50 Cardiff, £4 10s.; 15 Cedar Creek, 35s.; 50 Chapel House, £4 1s. 3d. (ex div.); 100 Great Western Colliery; 50 Galsdale Quarry; 100 Gold Run, 25 Grosvenor, £3; 50 Javali, 9s.; 10 Langdale Chemical; 75 Lawes ditto; 25 Glos; 5 Newport Abercrombie, £3½; 50 Old Trebutgett (ordinary), 7s. 9d.; 25 Parys Mountain, 5s.; 75 Penrith, 12s. 3d.; 50 Pennerley, 31s.; 25 Prince of Wales, 5s. 6d.; 200 Positive Assurance, 14s.; 20 Thorp's Gawber, £12½ (ex div.); 50 Van Consoles, £1½; 10 West Mostyn, £2½; 50 West Tankerville, 21s.; 50 Wheel Peavor.

MR. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C. (Established 10 years).

SPECIAL BUSINESS in South Condurow and Prince Patrick Shares, at low price. Ready on the 8th March, "How to Invest," forwarded on receipt of eighteen stamps, post free. All descriptions of security reviewed.

JOHN RISLEY (SWORN), STOCK AND SHARE BROKER,
77, CORNHILL, LONDON.

Turkish Six Per Cents. of 1854, 1859, 1862, 1865, 1871, and 1873 specially recommended; Wheel Greenvale and Treleigh Wood, also Wheel Peavor and Crebor Shares.
Business transacted at the following rates of commission:—Foreign Stocks, 1½ per cent.; and Mining Shares of £4 each and upwards, 1½ per cent.; under £4, 1s. 6d. share.

BERNARD AND R. KIRK, STOCK BROKER,
5, BIRCHIN LANE, E.C.

Consols, Foreign Bonds, Railways, and every security quoted on 'Change bought and sold.

Bankers: London and Westminster, and City Bank.

SPECIAL BUSINESS in the following:—
Altam Colliery, Earle's Shipbuilding, New Sharston.
Bilson and Crump, Ebbw Vale, Pawson and Co.
Bognall, John, Elby Brothers, Peninsular & Oriental.
Butler's Wharf, Fairbairn Engineering, Phosphate Sewage.
Brighton Aquarium, Fore street Warehouse, Richards and Co.
Cardiff and Swansea, Foster, Porter, and Co. Silkestone Fall.
Chapel House, Hudson's Bay, Thorp's Gawber.
Central Welsh, Cooper's Telegraph, Whitehaven.
City Offices, Littledean Colliery, West Mostyn.
Diamond Rock, Nant-y-Glo, Welsh Freehold.
Diamond Fuel, Newport Abercrombie.
OFFERS WANTED FOR:
Bagnall, John, Newfoundland Lead, United Bituminous.
Britannia Iron, South Cleveland, West Mostyn.
Bonville's Court Coal, Silkestone Fall.

MR. WILLIAM WARD

(LATE WARD AND LITTLEWOOD),
CROSBY HOUSE,
95, BISHOPSGATE STREET WITHIN, E.C.,
STOCK AND SHARE BROKER.

JOHN MOSS AND CO., STOCK AND SHARE DEALERS,
224 AND 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

Business transacted for cash or account on all descriptions of Stocks and Shares.

J. M. and Co. strongly advise the immediate purchase of North Prince Patrick Shares, as a great rise is certain. We have just inspected this mine. Report on application.

Fortnightly accounts opened on advantageous terms.

J. M. and Co. have BUSINESS in the undermentioned SHARES, at quoted prices, free of commission:—

40 Bampfyde, £1½; 60 Frontino, 6s.; 50 Prince of Wales, 5s.; 30 Birdseye, £3½; 100 Gold Run, 10s.; 30 Roman Gravel, £12½; 30 Cape Copper, £30; 20 Great Laxey, £11½; 30 Richmond, £7 6s. 3d.; 10 Carn Brea, £41; 50 Hington, 22s.; 20 So. Condurow, £4½; 50 Chapel House, £4 6s. 3d.; 50 Last Chance, £1½; 20 St. David's, 22s.; 70 Chontales, 10s.; 50 New Rosario, £25½; 20 Tankerville, £9½; 10 Cedar Creek, 35s.; 40 New Quebrada, £3½; 300 Untd. Bituminous; 50 Crenver, 50 North Prince Patr. 20s.; 15 Van, £23; 10 Devon Cons., £1½; 100 Old Trebutgett, 7s. 6d.; 25 Van Consoles, £1½; 50 Don Pedro, 11s. 3d.; 75 Parys Mountain, 5s. 6d.; 20 W. Esqair Lie, £2; 20 Eberhardt, £4½; 30 Pedn-an-drea, £6; 10 West Chiverton, £2½; 30 Emma, £1½; 40 Pennerley, 32s.; 100 Penrith, 12s.; 50 Wheel Peavor, £5½; 25 Flagstaff, £2½; 100 Prince Patrick, 50 Prince of Wales, 5s. 6d.; 25 W. Tankerville, 19s. 9d.

Circular for February now ready, and can be had on application. Bankers: The London and County Bank, Lombard-street.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
50, BISHOPSGATE STREET WITHIN, LONDON, E.C. (Established 25 Years).

will sell the following SHARES, at prices annexed:—
40 Almada, 15s.; 50 Gold Run, 14s.; 10 Roman Gravel, £12½; 30 Bognall, 11s.; 15 Galsdale, 15s.; 20 Richmond, £7 6s. 3d.; 30 Bampfyde, 31s.; 50 Javali, 8s. 9d.; 25 Sweetland, £2½; 30 Chontales, 11s.; 10 Ladywell, £2 13s. 9d.; 10 So. Condurow, £4 3s. 9d.; 15 Cardiff & Swan, £4½; 30 Malpas, 15s.; 4 Van, £23½; 40 Cape Copper, £22; 40 Marke Valley, 24s.; 20 Van Consoles, £1 18s.; 10 Devon Consols, 39s.; 20 Pennerley, £1 11s. 6d.; 10 W. Grenville, £4½; 30 Emma, £1 16s. 3d.; 25 Penrith, 12s. 3d.; 5 Wheel Peavor, £5½; 25 Flagstaff, £2 13s. 9d.; 25 Prince of Wales, 5s. 6d.; 25 W. Tankerville, 19s. 9d.

P. WATSON, STOCK AND SHARE DEALER,
79, OLD BROAD STREET, LONDON.

Bankers: The Alliance Bank (Limited); and Union Bank of London.

MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,
78, OLD BROAD STREET, LONDON.

(Established 1853).

GALSDALE QUARRY is fast attaining a good dividend concern. This property offers the safest and most reliable investment that can be desired. Only a few shares can be had at par. No further liability.
CHAPEL HOUSE pays over 16 per cent. per annum in regular quarterly dividends. Shares should be bought without delay.

THORP'S GAWBER is a sterling good investment. This is one of the most important collieries in the kingdom. All the above shares are fully paid. Full particulars may be had on application.

Mr. COOKE guarantees to supply the following shares, or any part:—

10 Altam Colli., £5. 20 Emma. 20 Pennerley.
20 Bampfyde, 36s. 70 Galsdale, 20s. 50 Parys Mountain, 6s. 9d.
20 Birdseye, £2½. 50 Gold Run. 50 Rookhope, 12s. 6d.
5 Bilson and Crump. 50 Javali, 9s. 10 Thorp's Gawber.
40 Cakemore Colliery, £5 20 Ladywell, £2½. 5 Wheel Peavor, £5½.
50 Chapel House, £4½. 30 Llanwrst, £2½. 10 Tankerville, £9½.
20 Cardiff and Swansea. 10 Newcastle Chemical. 10 West Tankerville.
5 Carn Brea. 30 Old Trebutgett, 7s. 6d. 10 West Chiverton.
40 Penrith, 12s.

Shares may be had for settlement at the end of April, subject to the payment of a deposit of 20 per cent.

References exchanged. Prompt attention given to all letters and telegrams.

MR. T. E. W. THOMAS, SWORN SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.

Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

Buyers.	Sellers.	Buyers.	Sellers.
Bampfyde	£ 13½.. £ 13½	Penrith	12s. 6d.. 13s. 6d.
Birdseye Creek	25½.. 25½	Prince of Wales	7s. 6d.
Bog	9s. 11s.	Richmond	7½.. 7½
Carn Brea	37½.. 40	Roman Gravel	12½.. 12½
Cedar Creek	1½.. 1½	Rosewall Hill	7s. 9s.
Chicago	3½.. 3½	St. Patrick	1 .. 1½
Chontales	9s. 11s.	South Condurow	4 .. 4½
Cook's Kitchen	6½.. 7½	South Prince Patrick	1½.. 2
Devon Great Consols	1½.. 2	So. Roman Gravel	16s. 17s.
Ding Dong	5 .. 6	Sewardland Creek	2 .. 2½
Dolcoath	40 .. 41	Tankerville	9 .. 9½
East Lovell	5½.. 6	Tinctor	20 .. 21
Eberhardt	4 .. 4½	United Mexican	2½.. 3½
Emma	1½.. 1½	Van	23 .. 23½
Flagstaff	2½.. 3	Van Consoles	1½.. 2
Gawton	7½.. 8	West Basset	5½.. 6½
Gold Run	11s. 12s.	West Chiverton	2½.. 2½
Javali	8s. 9s.	West Maria	6s. 6s.
Ladywell	2½.. 2½	West Tankerville	19s. 6d.. 20s. 6d.
Marke Valley	1½.. 1½	West Tolgus	30 .. 31
New Consols	1½.. 2	Wheal Agar	6 .. 6½
Parys Mountain	8s. 9s.	Wheal Greenvale	3½.. 4½
Penhalls	1½.. 2	Wh. Kitty (St. Agnes)	4 .. 4½
Pennerley	1½.. 1½	Wheal Peavor	5 .. 5½

WILLIAM BARTLETT, STOCK AND SHARE DEALER,
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Business transacted in British, Colonial, and Foreign Securities, Railway, Bank, and Mining Shares at close net prices. The Sale or Purchase of Shares not quoted in the usual Stock and Share Lists may be negotiated.
Full particulars of a few Securities well worthy of immediate attention will be forwarded on application, free of charge.

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20, CHANGE ALLEY, CORNHILL, LONDON, E.C., transact business in Stock Exchange Securities and Mining Shares of every description. A Selected List of Safe Investments forwarded to intending investors post free upon application. Fourteen years' experience.

MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS,
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We advise immediate application and purchase of the BAMPFYDE and LLANWRST shares. A rise in price is inevitable.

G. E. SIMPSON, STOCK AND SHARE DEALER,
6, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C.

will sell the following SHARES, free of commission:—
40 Almada, 15s. 3d. 10 East Lovell, £4 6s. 3d. 25 Richmond, £12 13s. 9d.
40 Bognall, 11s. 20 Eberhardt, £4 17s. 6d. 50 Rosewall Hill, 7s. 9d.
50 Bampfyde, £1 11s. 3d. 25 Flagstaff, £2 17s. 6d. 20 Tankerville, £9½.
25 Birdseye Creek, £2½. 75 Gold Run, 11s. 6d. 10 Van, £23½.
45 Chapel House, £4 2s. 6d. 50 Javali, 8s. 9d. 30 Van Consoles, £1 18s. 9d.
100 Clee Hill, 5s. 30 Ladywell, £2 16s. 3d. 20 Wheel Peavor, £5 2s. 6d.
50 Cedar Creek, £1 6s. 3d. 50 Old Trebutgett, 7s. 6d. 10 West Basset, £6.
70 Chontales, 10s. 3d. 50 Pennerley, £1 11s. 6d. 30 W. Tankerville, 20s. 6d.
50 Devon Cons., £1 18s. 9d. 5 Providence, £5½.

MR. THOMAS THOMPSON, JUN., 1, PALMERSTON

BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

Some valuable hints as to the purchase of mining shares will be found in Mr. Thompson's "Investment Circular" for February now ready, post free, price 6d.

MR. W. TREGELLAS, 122, BISHOPSGATE STREET

WITHIN, E.C.

Deals in all descriptions of Stocks and Shares at close market prices.

MESSRS. A. ENDEAN, FISHER, AND CO., STOCK AND SHARE

DEALERS, 3, LOMBARD COURT, LOMBARD STREET, E.C.

Bankers: London and Westminster, Lothbury.

MR. JAMES STOCKER, 2, CROWN COURT,

THREADNEEDLE STREET.

Railway, Bank, Foreign Bonds, and all other Stocks and Shares for Investment or Speculation.

SPECIAL BUSINESS in the following:—

50 Almada, 15s. 80 Galsdale, 17s. 6d. 25 Rom. Gravel, £12½.
50 Bampfyde, off wtd. 55 Great W. Van, 10s. 3d. 60 Rio Tinto.
50 Bellavista, off wtd. 30 Grosvenor, £7 6s. 3d. 75 Richmond, £7½.
25 Birdseye, £2½. 50 Gawton, 12s. 6d. 100 Roca, 5s. 9d.
30 Bilson & Crump, £10½. 15 Hudson's Bay. 40 Silkestone Fall.
70 Blue Tent. 15 Itton Rhyn, 37s. 6d. 30 Sweetland, 43s. 9d.
75 Bog, 12s. 200 Javali, 9s. 6d. 80 South Aurora, 13s.
100 Cape Copper. 100 Killbreth, off wtd. 50 So. Carn Brea.
40 Carn Brea, £43½. 20 Lawes' Chem., £25½. 30 So. Rom. Grav., 17s.
50 Cedar Creek, 35s. 40 Last Chance, 22s. 5 St. J. del Rey.
45 Central Van. 40 Ladywell, £2½. 30 Thorp's Gawber, £12½.
40 Chontales, 10s. 6d. 50 Malpas, 15s. 3d. 80 Teocoma, 28s.
30 Chicago. 55 Malabar, 12s. 3d. 100 Tylwyd, 20s.
40 Clee Hill Col., 6s. 6d. 30 Marke Valley, 24s. 15 Tankerville, £9 6s. 3d.
70 Chapel House, £4½. 20 New Rosario, 7s. 6d. 10 Tincroft, £23½.
25 Cardiff & Swan, £4½. 25 New Consols. 100 United Bitum., 6s. 9d.
40 Don Pedro, 8s. 9d. 45 New Sharston, £5½. 40 Van Consoles, 40s.
50 Denbighshire. 100 Old Trebutgett, 7s. 6d. 45 Welsh Freehold, £2½.
20 Devon Gt. Consols. 55 Penrith, 13s. 3d. 15 West Chiverton, £2½.
50 Emma, 37s. 6d. 50 Pennerley, £1½. 55 W. Esqair Lie, 30s.
20 Eberhardt, £4. 5 Providence, £4½. 70 Wheel Coates, 32s. 6d.
20 East Lovell, £6½. 50 Prince of Wales, 5s. 6d. 15 W. Grenville, £4½.
55 Flagstaff, £2 13s. 3d. 100 Port Phillip, 12s. 15 Wheel Peavor, £5½.
60 Frontino, 6s. 30 Rookhope, 12s. 6d. 15 Wheel Kitty, £3.
110 Gold Run, 16s. 3d. 30 So. Rookhope, 12s. 6d. 30 Wheel Uny, £3 1s. 3d.

Bankers: London and Westminster.

MR. CHARLES THOMAS,

MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MESSRS. A. W. THOMAS AND CO.,

MINING AGENTS, AND STOCK AND SHARE DEALERS.

St. Patrick Mining Company.—Prospectuses and plans may be obtained upon application to Messrs. A. W. Thomas and Co.

TO INVESTORS.

MESSRS. PENNINGTON AND CO.'S "MONTHLY RECORD OF INVESTMENTS," published on the first Thursday in each month, contains an exhaustive Review of the British and Foreign Stock and Share and Money Markets, &c., with an enumeration of safe investments, paying from 10 to 20 per cent. Price 6d. per copy, or 5s. annually.

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Business transacted in every description of Securities including British, Foreign, and Colonial; also Railways, Banks, Insurance, Miscellaneous, and Mining Companies.

Holders of Mining Shares can obtain, free of charge, particulars of the exact position of any company they may be interested in. Buyer of any part of 500 Lovells at 15s.; 1000 Patent Ligno Mineral Paving Shares. All enquiries answered by return of post.

MESSRS. HARLAND AND CO., STOCK AND SHARE

DEALERS, 235 and 236, GRESHAM HOUSE, LONDON, E.C.

Bankers: London and County Bank.

Messrs. H. and Co. wish to direct attention to the DIVIDENDS declared by CHAPEL HOUSE and ALLTAMI COLLIERIES, and will be happy to supply shares in these companies at market rates.

MESSRS. HARVEY, JORDAN, AND CO.,

MINING ENGINEERS AND AGENTS, ACCOUNTANTS, AUDITORS,

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MR. E. CHARTERS, 36, NORTHUMBERLAND STREET,

CHANCERY CROSS, LONDON, can do BUSINESS in the FOLLOWING

SHARES, free of commission:—

50 Almada, 15s. 3d. 30 Green Hurth, £4½. 40 Rosewall Hill, 6s. 6d.
25 Bampfyde, £1½. 30 Gunnislake, £1½. 60 Ross Grande, 2s.
70 Bog, 11s. 3d. 20 Marke Valley, £1. 50 Trumpet Cons., 18s. 6d.
20 Birdseye Creek, £2½. 50 Malabar, 12s. 6d. 5 Tincroft, £21.
20 Carn Brea, £41. 10 Modyn Moor, £5½. 20 Van Consoles, £1½.
20 Cardiff & Swan, £3½. 50 New Fowey Cons., 10s. 6d. 70 West Maria, 5s. 6d.
50 Devon Consols, £1½. 30 New Sharston, £5. 10 West Basset, £5½.
30 Emma, £1½. 30 Old Talaroch, £2. 20 Wheel Kitty, £3.
50 Frontino, 6s. 50 Plynlimmon, 2s. 3d. 10 Wheel Peavor, £5.
50 Gawton, 9s. 6d. 50 Pennerley, £1½. 30 Wheel Jane, £5.
20 Glasgow Carad., £1½. 60 Pedn-an-drea, £1½. 30 Wheel Uny, £2½.

MR. TIMOTHY HUGHES,

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The Registered Office of the PRINCE PATRICK, GROSVENOR, WEST-BRYN Celyn, and GREAT EAST FOXDALE LEAD MINING COMPANIES (LIMITED).

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MR. R. PERCY ROBERTS,

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60, ENGLISH STREET, CARLISLE.

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WANTED IMMEDIATELY, A STRONG, ACTIVE, and SOBER

YOUNG MAN, from Nineteen to Twenty-one, able to write and speak the Northern dialects of the Spanish language fluently. One who has been employed at the Spanish Mines two or three years, and can assay Silver, Copper, and other ores, would be much preferred.

Address, with full particulars, to "Galicia," MINING JOURNAL Office, 25, Fleet-street, enclosing copies of testimonials as to character and ability.

WANTED.—A PRACTICAL MINE AGENT, of large Foreign

and Colonial Experience, DESIRES a RE-ENGAGEMENT as MANAGER. Is thoroughly acquainted with metalliferous minerals and assaying.

Phosphate of lime deposits and analysis a specialty. Inspection of mining properties undertaken, and estimates carefully made. A situation foreign preferred.

Speaks Spanish. Security if required.

Testimonials and reference by addressing, in first instance, "Apatite," MINING JOURNAL Office, 25, Fleet-street, London, E.C.

WANTED, A SITUATION as MINE AGENT, at home or

abroad, by a PRACTICAL MINER. Speaks Spanish and Portuguese, and has good testimonials.

Address, "U. P.," Post Office, Falmouth, Cornwall.

WANTED, A SITUATION as MINE AGENT, to Superintend

the Working Department of any Gold, Tin, Copper, Lead, Phosphates, or Iron Mines, at home or abroad. Accustomed to dialling and mapping, and has a knowledge of the Spanish and Portuguese languages. Practical experience; seven years in Spain and Portugal, eighteen months in Brazil, and eleven years in Cornwall. No objection to proceed abroad to inspect and report on mineral properties. Satisfactory references and testimonials.

THE NASCENT COPPER PROCESS.

The PROPRIETORS of this PATENT METHOD of TREATING LOW-CLASS SILVER and COPPER ORES are PREPARED to GRANT LICENSES for its USE at LOW ROYALTIES.

There is hardly a Mixed Metal mine in the world but may be made to pay dividends under this system.

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By J. ARTHUR PHILLIPS, M. Inst. C.E., F.G.S., F.C.S., &c.,

Ancien Elève de l'Ecole des Mines, Paris.

"Possesses intrinsic merits of the highest degree. Such a work is precisely wanted by the great majority of practical workers. . . . In our opinion the best ever written on the subject with a view to its practical treatment."—*Westminster Review*.
"Mr. Phillips deserves well of the metallurgical interests of this country for having produced a work which is equally valuable to the Student as a Text-book, and to the practical Smelter as a Standard Work of Reference."—*Chemical News*.

London: CHARLES GRIFFIN AND COMPANY, 10, Stationers' Hall-court.

Lectures at the Royal School of Mines.

LECTURES ON MINERALOGY.—No. I.

Prof. W. W. SMYTH, in commencing the delivery of a course of six lectures on Mineralogy to working men, at the Museum of Practical Geology, said the subject of the first lecture was the "Geometry of Crystallised Minerals." He said: Several years have passed away since I endeavoured to bring before you some distinct and clear ideas on the subject of the geometrical forms the study of which is found to constitute one of the most important parts of mineralogy. This subject, dry and repulsive as it may appear to some, is at the same time one of the most interesting and important of the subjects we endeavour to illustrate in these lectures. Since these courses of lectures have been carried forward—for 24 years—the annual value of the minerals raised in Great Britain, as taken at the surface of the mines, has risen from 24,000,000*l.* to exactly double that amount, so that during the past year as large a sum as 48,000,000*l.* represents the value of the mineral produce of this country. When you consider the number of individuals engaged in their extraction, and the still greater number engaged with them subsequently in their adaptation to various purposes in the arts, you will see that there is no other country in the world in which the mineral produce is of higher, if indeed of so high, importance as in this. Persons of such opposite opinions generally Sir Robert Peel and Joseph Hume were yet at one upon this point—that it was desirable to collect and exhibit in such a Museum as this specimens of the various minerals of this country, of the tools employed in working them, and everything else which would assist in illustrating a branch of industry so highly important. From that not very distant time these collections have improved very materially in value and extent, and it is but reasonable to expect that a proper use should be made of them, not merely by persons visiting them at their leisure, but also by the endeavour by courses of lectures to explain why they have been brought together.

With regard to what constitutes a mineral, I need only remark that it is a stony substance, and must be of homogeneous character, may be either solid or liquid; amongst its physical qualities its form—or as we might call it, its morphological character—is one of the most important and the most interesting. Regarded chemically, a mineral may consist of one substance, which the chemist regards as an element, or of a definite chemical compound. These definite compounds, whether formed in nature or in the laboratory, will, when placed under certain conditions, assume particular forms; thus especially in solidifying from a liquid condition, either after having been melted or dissolved; and these geometrical forms are quite certain and characteristic. They may either be studied as a branch of physics, or with regard to their practical importance, so that we may endeavour to learn in what form we may expect to find certain minerals crystallising. Some minerals—calcite—assume a great many different forms (of calcite 1200 or 1400 have been described), but these are united together by laws so definite and accurate that they form the material for measurement by the most accurate instruments, the distinction between two forms is found sometimes to lie in a few minutes of a degree. In assuming these forms the mineral, whether obtained from the Andes or from the mines of Cornwall, has been found by definite laws, hidden away from the eye of man, these little molecules of what we are inclined usually to call inert matter have always had the sense, as it were, to assume that particular series of forms and no other. One may fairly say that up to the present time these laws are mysterious laws, the researches of the last 75 years, however, have done much to throw some light on the subject. And, first, I might add a word or two as to what is considered to be a "mineral." The legal gentlemen, for instance, are totally at variance with scientific men as to what constitutes a mineral. Under most aspects, anything is considered by the law to be a mineral which is dug up out of the ground. Science, however, cannot allow any of this vagueness; it defines a mineral more precisely as a homogeneous substance, every portion of which presents the same characters—hardness, composition, &c. If I examine a portion of this granite from Shap Fell (a beautiful material, which I am glad to see making its way more into London) I find that it consists of crystals embedded in a groundwork; it is not, therefore, a homogeneous substance, and in the strict sense is not a mineral. If we turn to white marble we shall find that every portion of it is homogeneous; its specific gravity, its translucence, and composition are regular; it is, therefore, properly a mineral. I need not say anything about the organic world, yet we know that our own bodies are composed entirely of a moderate number of those substances called elementary, and that in our food we take up certain of these mineral matters, which after occupying a position in our bodies for a certain time are again returned to earth.

There is a great practical advantage in acquiring some knowledge of crystallography, for if we know that a substance crystallises in a certain series of forms, and not in others, and if we make ourselves familiar with the particular forms in which certain substances crystallise we shall avoid falling into many blunders into which those who meddle with mineral matters without knowing something of crystallography usually fall. The first point is how shall we be able to describe the various forms in which minerals crystallise, and how to connect them together? You know that any plane is determined in position if we can find three points in it; it is the ordinary plan in geometry to define the position of planes with regard to three co-ordinate axes. Conceive a straight line to be crossed in any direction by two other lines, then we may regard these three lines as a series of three axes; and if the lines are mutually at right angles (as in this model), may call them rectangular axes. I take this system to explain it better, but the lines need not be at right angles, they might be oblique; however, these rectangular axes are the most important for us in mineralogy. Now, if we have a plane lying in any position, we can describe it by referring it to our co-ordinate axes; we can measure off from the centre, where the axes cross on each semi-axis the length cut off by the plane on that axis. By taking each of the faces of a crystal in this way we can describe their position and their relation to each other. Before this system of co-ordinate axes was used the forms were described in a very much more complete way.

The next point is to understand the terms made use of in describing the forms of the various faces, and in most cases you will find that they are simply geometrical terms, most frequently used in their ordinary senses. For instance, with regard to triangles, we meet with some having the three sides equal—"equilateral;" others having only two sides equal—"isosceles;" and a third variety having

three unequal sides—"scalene." Of four-sided figures we meet with the "square," with its four sides equal, and its angles all right angles; with the "rectangle," which has all its angles right angles, but only its opposite sides equal; the "rhomb," which has all its sides equal, but its angles are not right angles; and the "rhomboid," of which the opposite sides and angles only are equal. Here is a specimen of the mineral called garnet, an inferior kind of gem, crystallised in a form known as the "rhombic dodecahedron," every face of which you will see is a rhomb. Amongst solid forms one of the most important is the "tetrahedron," which has four faces, each being an equilateral triangle. Among figures of six faces is the "cube," each face being a square; the term is applied very loosely in some of the mining districts, denoting almost anything which has a regular form. Then we come to a very important figure, with eight faces, each an equilateral triangle; this is called the "octahedron." The diamond often takes that form. The term "pyramid," which is very frequently applied, is understood in geometry to mean a figure standing on a plane, which is called the base, with any number of sides above three, all meeting in a point above, termed the apex. A pyramid in mineralogy implies two pyramids, like the above, turned base to base. Another term, of as frequent occurrence, is "prism," and this is given to solid figures of which the two ends are equal and parallel to each other, and the faces are parallelograms, of which there may be any number from three upwards. A solid figure, with a large number of faces, has usually a name given to it to express first the number and secondly the form of faces of which it is made up. For instance, this crystal of garnet has twelve sides, and therefore the term dodecahedron (meaning twelve sides) is applied to it; and further to distinguish it, inasmuch as each face is a rhomb, it is termed the "rhombic dodecahedron." If the faces instead of being rhombs are pentagons, or five-sided figures, then the solid figure is called the "pentagonal dodecahedron." Similarly a figure of twenty-four sides, evidently arranged in groups of three over each face of the octahedron, is called the "trikis-octahedron," or the three-times-eight-sided figure; and another figure, of the same number of sides, arranged, however, in groups of four over the face of the cube, is called the "tetrakis-hexahedron"; a third figure, of twenty-four sides, is called the "icositetrahedron," the face being in this solid, what are known as deltoids, or four-sided figures, adjoining sides two and two equal.

So much for the names attached to the principal figures we shall come in contact with most frequently. Now I must very briefly indicate to you the general principles which guide mineralogists in the classification of these forms into groups. Here is our model of the three co-ordinate and rectangular axes. Reckoning from the centre, we have six semi-axes, or "parameters." Now, if we mark off on each of these semi-axes an equal distance from the centre, and join those points, we shall have then an octahedron. There must be eight triangular planes formed, and there can be no more. When we take other distances on the axes, and join them, we shall get a series of other forms, which together make up what may be called the octahedral system, because we start from the octahedron, which is the simplest figure. We may, therefore, characterise the octahedral system as having three co-ordinate axes at right angles to each other; and each of the semi-axes in the solids equal to the others. This is our first group of forms; it is sometimes called the cubical system, because the cube is one of the figures comprised in it. The second group, or series, has likewise three rectangular axes at right angles, but differs from the first system in having one of the axes of a different length from the other two, which are equal. The planes will be seen to intersect two of the axes at equal distances from the centre, but the third axis at a greater or less distance; it is called the pyramidal system, the fundamental form being a pyramid. Whilst in the cubical system we have the diamond, garnet, and fluor-spar crystallising, in this second system the number of substances is not so great, but it includes one at least of especial interest to Englishmen—cassiterite, the chief ore of tin. The third system also has three rectangular axes, but differs from the preceding in having its three axes all unequal; it is called the "prismatic system," sulphur being one of the substances occurring in the group. There is another group, in which it is difficult to arrange these axes, but this difficulty is avoided by taking four axes, three lying in one plane, being equal, and intersecting each other at 60°; and the fourth, which is unequal, intersects the three at right angles. The principal figures in the system are six-sided prisms, and six-sided pyramids, and hence it is termed the "hexagonal system." The fifth system, again, has three axes, but now the third axis is no longer at right angles to the other two; it is known as the "oblique system." And, lastly, the sixth system, which is called the "double oblique," and in which but a comparatively few minerals occur, have three axes, of which none at all are at right angles, for which reason is it sometimes called the "anorthic system"; sulphate of copper crystallises in beautiful blue crystals in this sixth system.

If you determine the position of one of these planes with regard to these same axes, you are in a position to jump at a conclusion as to what is the figure of the entire crystal. And the forms which inorganic matter is inclined to assume, when placed under favourable conditions, are so definite, that frequently when you see only a small portion of a crystal projecting from a stone you are enabled to declare not only what is the form, but in many cases also what is the nature, of the substance.

CHARLES LYELL.—By the death of Sir Charles Lyell, Bart, D.C.L., F.R.S., F.G.S., which occurred on Monday, the geological world has lost one of its brightest ornaments, and another of the few remaining who could remember geology before it was recognised as a science; indeed, it has been very truly remarked that thanks in a very great measure to Sir Charles Lyell's own efforts geology now takes its rank among the foremost conquests of the human mind, and among those to whom the future historian will point as having most essentially enlarged our conceptions of the grandeur of the scheme of creation there will be no name more prominent than that of the author of the "Principles of Geology," and the "Antiquity of Man." Sir Charles Lyell, who was the son of Mr. Charles Lyell, of Kennerly, Forfarshire, was born on Nov. 14, 1797, and had, therefore, reached his 77th year. From early boyhood he devoted himself to scientific pursuits, and his connection by marriage with the family of Leonard Horner, whose daughter Lady Charles Lyell was, did not tend to lessen his love for science. He was educated at Exeter College, Oxford, where he graduated M.A. in 1821, and was called to the Bar. He was appointed a Deputy Lieutenant for Forfarshire in 1831, was President of the Geological Society in 1836-7, and again in 1850-1; was knighted in 1848, received the honorary degree of D.C.L. from the University of Oxford in 1855, and was created a baronet, Aug. 22, 1864. Sir Charles is the author of several important geological works, and of many papers in scientific journals. The "Principles of Geology" was first published in 1830, the tenth edition in 1868; and "Elements of Geology," first appeared in 1835, now in the seventh edition. The principal object of these treatises is to show that the early progress of geology was

retarded by a prevailing belief that the former changes of the earth and its inhabitants were the effects of causes differing in intensity, and some of them in kind, from those now in operation; whereas the true key to the interpretation of geological monuments is to be found, according to the author, in a knowledge of the changes now going on in the organic and inorganic worlds. "Travels in North America," a narrative of a visit which he paid to North America for the purpose of examining the geological structure of that continent, appeared in 1841; "Second Visit to the United States," in which he treats of the social as well as of the geological characteristics of America, in 1845; and a treatise on "The Geological Evidence of the Antiquity of Man; with Remarks on Theories of the Origin of Species by Variation," in 1863. Sir Charles Lyell has been accurately described as "the last of the elder generation of our great men of science, and one who leaves behind him the memory of a character almost ideally representing what such men should be; so free from egotism, vanity, or jealousy, so ready to be pleased with every innocent jest or amusement, so ready to listen patiently to the remarks of those inferior to him in intellect, and, withal, so affectionate and tender of heart, that no child could be more simple; and, on the other hand, so filled with reverent enthusiasm for the glory and grandeur of the universe to whose study he devoted himself, and so ready to open his mind to each new truth, that no man could better deserve the high title of a true philosopher. The worthy baronet will be interred in Westminster Abbey to-day (Saturday) at 1 o'clock.

THE COAL RESOURCES OF OUR COLONIES.—No. III.

Coal exists in most parts of TASMANIA, east, west, north, and south. Until lately Hobart Town was chiefly supplied from the anthracite mines at New Town, a distance of about three miles from the city, and from Tasman's Peninsula. But the Seymour Coal Mining Company now takes its fair share of the trade; the mines of this company are on the eastern coast, and supply bituminous coal. But it is generally believed that coal beds of far greater value than these exist in other parts of the island, and Mount Nicholas has long been pointed to as the site of one. This coal bed is estimated to occupy an area of about 14 square miles on the northern side of the Break-o'-Day Plains. Beds in the Mersey river have also been found, and, although limited in quantity, have been profitably worked, as they are easy of access. The coal is very bituminous, is used by the coasting steamers and in Launceston, and has been recently exported to Victoria. The bituminous coal from Hamilton is said to be very good; it lies about 40 ft. deep, in a seam 4 ft. 6 in. thick, and has been used and favourably reported on by the Derwent steamers, from the shipping places of which, at New Norfolk, it is about 20 miles distant. The coal formation on the south side of the island extends round the mouth of the Huon to S.W. Cape, within which range many deposits have been discovered. With a supply so varied and extensive, some localities will, probably, be soon found to possess coal of first-rate character, easy of access.

Crossing now over to NEW ZEALAND, we find a general diffusion of coal. There are extensive deposits of coal in different parts of the province of Canterbury, to work which one or more companies are being formed. Enough is known, however, of that which crops out along the shore and on the face of inland cliffs to show that New Zealand possesses incalculable stores of coal. The principal districts in which it is known to exist are Otago and Southland, Nelson and the Waikato, Drury and the Bay of Islands, in the Auckland province. The Nelson coals of the Grey, Buller, and Massacre Bay, so conveniently situated near Cook's Straits, and those of the Malvern Hills, in the Canterbury Settlement, are of superior quality, and appear from their analysis likely to be well adapted for marine and naval purposes, and thus to prove a vast source both of wealth and power.

Some ten years ago an excellent account of the coal fields of the Province of Nelson was published in the *Nelson Examiner*. Mr. Burnett, who was charged with the official examination, reported that on this particular part of the coal field there were 76,600,000 tons of coal, which could be brought to the Buller Harbour by means of a railway in no place exceeding 18 miles in length; but for many years 12 or 13 miles would be sufficient, and possibly only 8. This quantity would supply 2000 tons a-day, or 600,000 tons a-year, for 121 years. The coal of the Kawa Kawa Mine, Bay of Islands, six miles from the water, up Kiri Kiri river, is of a superior quality, and equal to New South Wales for steaming purposes. The thickness of the seams varies from 6 to 16 ft. The Wangarei coal field now supplies coal to the inhabitants of Auckland. This coal is said to be equal in quality and is thought to be a continuation of the same seam as the Bay of Islands.

We must not overlook in our colonial survey the great continent of India. The carboniferous system of India lies almost entirely between the 20th and 26th degrees of latitude, comprising a belt of about 400 miles in width, and this is almost entirely within the British territory. Two principal coal fields in this area are now worked, that of Nerbudda, which approaches within a few miles of the Great Indian Peninsula Railway, and that of Raneeungee, 120 miles from Calcutta, on the loop-line of the East Indian Railway. Of these, the Raneeungee field has been by far the longest worked. The intrinsic value of this coal is, however, generally estimated at scarcely two-thirds of the best English coal. The coal trade of India is daily becoming of greater importance. The amount raised has considerably more than doubled in the last ten years. The mines are gradually being extended, and worked in a better manner than formerly, and the coal is sent to market in a better state. Mr. T. Hughes, C.E., in his report, dated January, 1873, states that, taking the coal fields already partially or in whole examined in India, and allowing for the unsurveyed portions of Central India—Assam, Burmah, and the Tenasserim provinces, &c.—we may safely assume the area over which coal rocks abound at 35,000 square miles. In India the Raneeungee coal field alone contains from 100 to 120 ft. of workable seams, and the quantity is estimated at 14,000,000,000 tons. According to Dr. Oldham, only one or two kinds of Indian coal come up to the average of the English specimens. The quantity of Indian coal used in Bengal from 1859 to 1866 by the railways and steamboats on the Ganges was 2,700,000 tons. The quantity of English coal that was imported during that time was 332,000 tons. In 1872 the large quantity of 7,239,205 tons of coal was imported into India from foreign countries. The imports from England range from 600,000 to 700,000 tons.

Mr. Donaldson, who was commissioned by Lord Mayo to examine the coal measures in some parts of India, in his report estimated one coal field, in the Hazareebagh district, to extend over an area of about 500 square miles, and the iron ore about the same. The coal in Upper Assam and Cherra is of very good quality—in fact, quite equal to that of any English colliery. The great difficulty at present is the cost of bringing down the latter from the hills on the backs of human beings; but this will, doubtless, be remedied by the wire tramways now being introduced into India. Capt. F. Forsyth, in his interesting survey of the Highlands of Central India, 1871, describes an enormous area of this district as full of coal measures. India, therefore, has seams of magnificent coal lying on the surface, which could be excavated at a nominal cost, whilst coal is being sent thither from England across 10,000 miles of sea.

The Island of Borneo is admirably situated for the supply of our naval and mercantile marine in eastern waters; though but a mere speck on the map of the world, it appears to contain a vast supply of coal, which is reached at a very moderate depth. The Oriental Coal Company has, at length, fairly set to work with the view of reaching the 11-ft. seam at an estimated depth of 100 fms, a work which will require some time, and upon which the fortune of the present enterprise may be said to depend.

One great group of colonies remains to be noticed, the South African, which, if not rich in coal, yet possesses black diamonds which may hereafter become more valuable than the finds of white diamonds. In the Cape Colony, indications of coal have been met with in the mountain basin of Tulbagh, a district equidistant from Table Bay, Saldanha, and St. Helena Bays—only 40 to 50 miles from each. So that, should it prove valuable, it is most happily placed; but as yet there has been little temptation to explore it. In the eastern townships also coal exists. It is excavated for local use in the neighbourhood of Port Alfred, and at other places within a very moderate distance of the coast. At Natal there are some indications of coal near the capital and port. In the far north-east corner of the colony on the Tugela, about 120 miles distant from the port, a good coal field has been discovered, and the district has been given the name of New-ben discovered, and the district has been given the name of New-ben discovered. In consequence of its remoteness, and of the want of roads or navigable rivers, it is, of course, alike useless to the capital and the port, and to the lines of steamers which unite it with the Cape and the rest of the world, and to the sugar plantations on the fertile belt

coast line; but happily there is a near prospect of the formation of a railway to bridge the distance.

DOWSING AND THE DIVINING ROD.

The reviewer of Mr. Thos. Welton's translation of an old work on Jacob's Rod says "It is marvellous to find persons in the nineteenth century, and apparently in full enjoyment of their reasoning faculties, who entertain the smallest particle of belief in the efficiency of the divining rod for facilitating the discovery of springs, mines, and minerals; and, without offering an opinion one way or the other, we are tempted to ask, what do people in general understand by the divining rod, or the *virgula divinatoria* of the ancient historian Ptolemy, who was such a firm believer in its virtues?" In the "Gleanings among Mines and Miners," published 30 years ago (1845), by Mr. J. Y. Watson, F.G.S., a "dowsing" expedition in which he engaged with an old and firm believer in the science is described, and the rod used was a hazel twig, forked at the end like a pitchfork. The prong ends were tightly grasped, one in each hand, and the long end of the twig turned up towards the face. And with the hands thus holding the rod, Mr. Watson goes on to describe, and pressed close to our sides in a very constrained position, he marched across field after field; the result to me was only a pain in the arms, but my companion's rod, or the perpendicular part in a line with his nose, was once or twice suddenly jerked forward, as if he passed over what he was ready to stake his reputation as a mineral vein. This man was described as of a highly nervous and excitable temperament, as all dowsers are; and the narrator ventured to ask the question whether electricity might have anything to do with the movement of the rod? The backs of lodges, he says, crop up with the movement of the rod; they are generally filled with water, and it is supposed that strong electric currents pass through them. Would, therefore, a man of highly nervous temperament be more susceptible to electric currents than others, and could he by walking over the back of a field, with nerves and muscles in a high state of tension, be capable of receiving a shock sufficient to move the muscles of his arm, and thus agitate a rod held with difficulty in its upright position? These questions Mr. Watson asked 30 years ago, and if they are capable of anything like a satisfactory answer Ptolemy was not so profoundly ignorant after all, though without any knowledge of electric currents. Either way the idea that the divining rod was simply the white wand or rod of the conjuror seems to be erroneous.

THE HEMATITE DEPOSITS OF CUMBERLAND.

At the Manchester Geological Society, on Tuesday, the discussion on Mr. KENDALL's paper on the origin of the hematite deposits of Whitehaven and Furness, read at the previous meeting, was resumed. Mr. W. BROCKBANK said that Mr. Kendall, in his paper, took exception to some of his (Mr. Brockbank's) published opinions as to the origin of the hematite ores. Mr. Kendall's theory was, first, that the sandstones and shale of the coal measures contained a large percentage of iron; secondly, that those rocks probably overlaid the whole area now occupied by the limestone, which contained hematite; and thirdly, that the iron they contained was dissolved by carbonated water permeating the rocks; and this carbonated solution, thus carried down, attacked the underlying limestone and deposited the iron on its lines of faults and meridional planes. But it would readily be shown that true hematites were found in situations where these conditions could not have obtained, and altogether beyond any influences arising from the coal measures; and, therefore, they could not account for the presence of hematite by this theory. For instance, in the porphyries of Bowfell there were large veins of true kidney hematite ore, and especially in the hollow or cleft between its two summits. The Pike of Bliscoe, in Langdale, was deeply veined with hematites; and Red Tarn, behind its summit, derived its name from the hematites which formed its shores. Indeed, so rich were the veins of true hematite in the older rocks at the head of Langdale that it had been in prospect to carry a railway up to work them. These were instances, amongst others, of the occurrence of hematite ores directly from their parent source; and in his opinion they proved the origin of hematite ore to be igneous. Assuming, as they might safely do, that the period when the hematites were largely produced was the close of the carboniferous and the commencement of the permian era, and bearing in mind also that the coal measures were deposited horizontally, afterwards tilted at a high angle, and then denuded and again sunk below the level of the sea, before the permian era commenced (because the permians were deposited unconformably upon them) there was, it must be at once seen, room for great changes by gigantic forces such as had no parallel with us, and which would occupy a long epoch of time from first to last. If the hematites were developed during the earliest permian era, it followed that the rocks in which they were now found were then below the surface of the sea. He believed that the hematites were poured out into the permian ocean, just as, during an eruption of Mauna Loa, in the Sandwich Islands, some years ago, the ocean was coloured red for miles by the ferruginous mud which the volcano poured into it. Mr. PLANT supported the views of Mr. Kendall, who, he said, in his exposition of the origin of hematites only followed Prof. Newberry and the leading writers on the subject in the United States. The CHAIRMAN said he saw no discrepancy between the views which Mr. Brockbank had advanced and those of Mr. Kendall; it rather seemed to him that Mr. Brockbank's facts would explain the sources of the iron ores, while Mr. Kendall's view would undoubtedly explain—and, so far as he (the Chairman) knew, no other view had yet explained—the presence of those ores in the condition in which they were now found.

Mr. J. DICKINSON (Her Majesty's Inspector of Mines) said he had many years discarded the prevailing geological view of metaliferous deposits having been carried or thrust into fissures either by water or volcanoes from some imaginary source either above or below. He knew what the geological views were, and he was often pleased to hear and read ingenious theories accounting for the formations, as we find them, in the earth. The changes which were going on by the action of water, air, and volcanoes were undoubted, and perhaps in no instances were they more apparent than in the important substances which had occurred and were now occurring from the solution of rock salt. His faith, however, was not so strong as to reconcile the views that strata of the thickness of several miles had, as was supposed, been swept away either by the action of water on the surface of the earth, or by an iceberg acting as a gouge to chisel out when the denudation (as in the case of some of the lakes) was below sea level. Some years ago he explained to this society the cosmic views which he held, attributing the principal apparent changes to anterior causes, when the whole of the planetary system was being matured by which all the important features now geologically attributed to denudation, upheaval, and such like were to his mind much more satisfactorily accountable. Since he announced his adherence to these old views, prismatic analysis (one of the most interesting discoveries of the age) had shown that the solar system was of the same material as the earth. This discovery, he hardly needed to say, had strengthened the opinion which he had previously entertained from the evidences of the strata and covering drift only. The vertical displacements of strata by faults, fossils, reptilian remains, &c., afforded evidence that stratifications, when they were being formed, were in a plastic state. All change did not then cease. The great change occurred before the planet took its orbit, but the minor changes were still going on, and crystals might be seen still forming in modern workings, in mines, where the process was not interrupted showing that subtle changes were still in operation. He stated at the previous meeting that most of the principal deposits of hematite from ore are near the permian and new red sandstone formations which were impregnated with iron sufficient to supply the deposits; and, if time permitted, he could accumulate much other evidence, but he had said enough to indicate how, in his opinion, the metaliferous deposits had been formed, and were being transposed.

After some remarks from Mr. AITKEN, the discussion was closed. The Master of the Rolls has appointed Mr. B. P. Daniels (Good, Daniels, and Co., Foulry) official liquidator of the Bream Iron Mining Company (Limited).

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This company is formed for the purpose of acquiring and more extensively working the mining claims of the Sons and Doma Consols Company (Registered), and situated in the Valley of the Black Dog Creek, in the mining district of Beechworth, Victoria, Australia.

The property consists of the Amalgamated Alluvial Mining claims, known as the Extended, Sons of Freedom, Doma Mungl, and Indigo Grand Junction Mines, through which pass the auriferous drifts known as the Barrambole, Lancashire, New Hibernia, Chiltern, and Scotchman's leads, and also the Indigo, Caledonian, Durham, and Victoria leads, all trending in the direction of the Valley of the Black Dog Creek.

The Extended, Sons of Freedom, and Doma Mungl embrace an area of about 2½ miles on the course of the main Chiltern lead by 1 mile in width across the valley, comprising about 1600 acres. The Indigo Grand Junction is about 1½ mile on the course of the Indigo lead, by 1 mile in width across the valley, comprising about 900 acres, making a total of about 2500 acres; and taking into consideration their meandering course, a total length of about 5 miles of rich alluvial lead.

According to the reports there have been spent upon these properties for purchase, shafts, machinery, &c., over £75,000, and the returns have already amounted to over £200,000, of which £35,000 has been obtained from the Doma Mungl, and £165,000 from the Sons of Freedom.

The Hon. J. A. Wallace writes, that without considering the interest which he has received upon the moneys advanced to pay for machinery, &c., he has himself received over £20,000 in dividends. He also writes that after the first month's working, he believes he could send to England 600 ozs. of gold, and within four months about double that amount from the present shaft; and when the works are in full operation monthly returns of £20,000, of which one-half would be profit, may, in his opinion, be safely reckoned upon. It will thus be seen that the property of this company proposes to purchase is thoroughly proved, and moreover a going concern, from which early dividends may be expected, while the names of the gentlemen who form the local board are a guarantee for the bona fides of the undertaking, and its legitimacy to a claim for public favour.

The vendor expresses his own confidence in the undertaking by agreeing to place £500 to the credit of the board, in order to enable the directors to take such steps as they may deem advisable to test the accuracy of the reports, the said £500 to be forfeited in the event of the report not being in full corroboration of the representations made, and in which case all subscriptions would be returned to the shareholders without deduction of any kind.

The vendor also agrees that the whole of his interest, to be taken in fully-paid shares, shall be left in the hands of the directors for any period they may deem expedient in the interest of the shareholders, not exceeding 12 months.

The directors are of opinion that the vendor could hardly give a greater guarantee of his confidence in the success of the undertaking, and they direct attention to the fact that the money already spent upon the mine amounts to over two-thirds of the sum to be paid for them by the company; and in requesting a careful perusal of the reports annexed to the prospectus, which are by mining engineers of the highest standing in Australia, they express their belief that this company will pay remunerative dividends.

The price to be paid for these mines, inclusive of the very extensive plant in connection with them, is £110,000, of which only £10,000 is to be paid in cash (to discharge a mortgage entered into to provide additional plant), and £100,000 in fully-paid-up shares, leaving a balance of £90,000 as working capital, and to extend operations, for which purpose alone this property is offered in England.

A copy of the agreement for the purchase, bearing date the 6th of February, 1875, between James Croyle, the duly appointed attorney of the Sons and Doma, Consols Company (Registered), of the one part, and on behalf of the company of the other part, can be seen at the offices of the company's solicitors.

Accompanying the prospectus will be found copies of the reports of N. Chenhall, Esq., Member of the Beechworth Mining Board, Henry Nickless, the Manager, Robert Arrowsmith, Mining and Crown Land Surveyor, and J. Brache, C. and M.E., late Superintendent of Mining Surveys to the Geological Department of Victoria, the originals of which, together with the whole of the correspondence with regard to the mines, may be seen at the offices of the company.

Prospectuses, together with Forms of Application for Shares, can be had from the Solicitors, or at the offices of the company.

Meetings of Public Companies.

SOUTH WALES COLLIERY COMPANY.

The twelfth ordinary general meeting of shareholders was held yesterday (Friday), at the London Tavern.

Major LAWRENCE HEYWORTH in the chair.

The notice convening the meeting was read by Mr. M. F. HUNT (the Secretary).

The directors' report presented stated that the increase in the output of 10,494 tons was due to the extended cartage accommodation possessed by the company. The profit and loss account for the half year showed a net profit upon the working of the colliery of 5818*l.* 15*s.* 6*d.*, which, with the sum of 315*l.* 14*s.* 10*d.* brought forward from the last half year, showed a balance of profit and loss account of 6134*l.* 10*s.* 4*d.*; and the directors recommend a dividend of 15*s.* upon the old shares, and a *pro rata* dividend, viz., 13*s.* 7*d.*—on the new issue of 2203 shares, payable on March 3 next free of income tax, which will absorb 5839*l.* 14*s.* 1*d.*, leaving a balance of 294*l.* 16*s.* 3*d.* to be carried forward to next half-year. The sinking at Rose Heyworth pit had been continued, and at present reached the depth of 130 yards, leaving about 60 yards to sink to the Three-quarter coal. The amount expended upon the development of the property during the half-year, and charged to capital, was 12,871*l.* 19*s.* 2*d.*

The CHAIRMAN, in moving the adoption of the report and accounts, stated that he was suffering from a severe cold, so his remarks would be few. They would see in the report, which was before them, that they had made a profit of 5818*l.* 15*s.* 6*d.*, of which they proposed to pay 15*s.* dividend on the old shares, and 13*s.* on the shares not wholly paid up. The trade had not been quite so good during the past half-year, and the labour question had been a very serious one, and that involved very serious prospects, affording great anxiety in the future. The men showed an indisposition to work, and a desire to oppose the masters, and he was of opinion that until a change took place collieries, generally speaking, would not be very successful undertakings. It was to be hoped, however, that after a time the men would see that their own interest was to support their masters in developing the trade of the country, but at present they seemed to think just the opposite. The cost had been slightly lower—nearly 1*s.* per ton, and the shipping charges had also been reduced, but the sales had also been reduced in price nearly 4*s.* per ton, and that was the explanation of the rather small dividend. A good deal of money had also been spent on the Rose Heyworth pit in putting up engines, and in finishing sidings. The sum of 4521*l.* had also been spent in cottage accommodation and the necessary repairs. The truck account had been increased. He moved the adoption of the report and accounts.

Mr. LAWRENCE seconded the resolution.

Mr. FRANKS said he was somewhat disappointed at the smallness of the dividend, and his feeling was shared by many of the shareholders. He then put several questions, to which the Chairman afterwards replied.

A SHAREHOLDER asked if another call would be required to complete the sinking of the Heyworth pit and the building of the remaining cottages? He remarked that the expenditure on the old cottages should have been paid out of the rents, and not charged in this account.

In answer to a shareholder.

The CHAIRMAN said that they were not in the Masters' Association, and their collieries were now working. The loss on the farm was partly charged to the accounts of the last half-year. The total loss was about 700*l.*, of which 500*l.* was charged to the accounts of this half-year. The farm was now sold. The cost of the fete at the opening of the Colliers' Hall was about 300*l.*; but it was thought expedient to give the fete in order to encourage the men to work amicably. The directors certainly expected no objection from the shareholders on that point, as they acted for the best interests of the company. (Cheers.) The cottages at Clyn Mawr were, no doubt, expensive; but this was due in part to the rise in masonry work, which was even in greater proportion than in colliery labour. The cost of the cottages was about 200*l.* each. The idea of the directors was to give good accommodation to the men in order to inculcate habits of temperance and general good conduct. If a man had an uncomfortable home it led to intemperance, and then to general ill-feeling amongst the men. (Hear, hear.) There were only three or four of the cottages unlet out of the whole number, and these had not been unlet long. The question of the London office was receiving the attention of the directors, but it was a moot question whether they would not lose as much as they gained by doing away with it. There was a probability of a call being made at the end of the year to finish the new pit, but at present there remained nearly 7000*l.* in hand. The repairs of the cottages were in all cases charged against rents.

The resolution for the adoption of the report and accounts was then carried unanimously.

On the motion of the CHAIRMAN, Messrs. W. B. Greenfield and H. J. Kennard were re-elected directors. Messrs. Delville and Co. were re-elected auditors, at a remuneration of 70*l.* per annum.

Mr. FRANKS expressed his opinion that a competent manager should be appointed at the colliery, and that his salary should be deducted from the remuneration of the directors.

Mr. WHITE said that, in comparison with other companies, this company had done very well under the present management, and that it would be a mistake to make any alteration in the remuneration of the directors. (Hear, hear.)

A SHAREHOLDER then moved, and Mr. A. W. RAY seconded, a resolution fixing the directors' remuneration at the amount hitherto paid. The resolution was carried without dissent.

The CHAIRMAN, with reference to their present prospects, said that as they were not in the Masters' Association they had to fight the men on their own footing, and they had, therefore, agreed with the men that they should go on at the present rate of wages, subject to a reduction being made by the association, and then to accept that reduction. They had, therefore, continued working at the old rate,

and the profits had, no doubt, been considerable, but how long it would last no one could say. The reduction in the output of coal in South Wales might cause a rise in prices, but it was impossible to say with certainty what the coal trade might be at the end of the strike.

Mr. LAWRENCE remarked that the company was now paying interest upon 45,000*l.*, which was totally unproductive of profit, as also the sums expended upon the new cottages. He believed it was an act of wisdom to build those cottages of a superior class, which would assist the men to preserve something like habits of sobriety rather than those too often indulged in now; and sobriety and industry in their workmen were very important indeed, and that had been the object of the board in establishing those cottages. (Cheers.) The whole of his shares had come into something over par, and his confidence in the company was as strong as it ever was. They had extensively explored a vein of coal recently which had been found to be of the most excellent quality, it being composed not only of first-rate steam coal, but also of very excellent house coal. (Hear, hear.)

On the motion of Mr. RAY, a cordial vote of thanks was passed to the Chairman, and the meeting terminated.

OLD TREBURGETT SILVER AND LEAD MINING COMPANY.

The ordinary general meeting of shareholders was held at the company's offices, St. Helen's-place, yesterday.

Mr. T. A. MASEY in the chair.

Mr. F. R. WILSON (the secretary) read the notice convening the meeting, which contained the special announcement that, in accordance with the Articles of Association, notice had been given that Mr. George Parsons would move a resolution "That in consideration of the present expenditure in and upon the Old Treburgett Mine, and the poor value of the generality of the lodes, the shareholders urge upon the directors the desirability of the directors taking steps for a reduction of the present heavy royalty to 1-15th or 1-18th, and failing their consent that they take steps to stop all workings as far as possible in the lodes where the 10 per cent. royalty is payable."

The statement of accounts was submitted, showing that the ore sold during the year had realised 15,135*l.* 5*s.* 10*d.*, whilst the expenditure had been, including London expenses, special inspection, law costs, &c., 14,720*l.* 15*s.* 10*d.*; leaving a net profit of 414*l.* 10*s.* The dividends paid during the year amounted to 1644*l.* 3*s.*, and the actual credit balance on profit and loss account was 351*l.* 17*s.* 7*d.*

Mr. James Henderson, C.E., reported (Jan. 10) upon the mine. After referring to the position and prospects of the several points of operation which are detailed in the report of the agents, he states that the pumping-engine of 50-inch cylinder, with three boilers, is in good condition, and does its work well. The crusher is worked by a 22-in. engine, which also drives and works the jiggling machines. A new machine for dressing the ore, called an "impeller," is being erected, and judging from a description of its operations, and the drawings which he has seen, he believes it to be well calculated to effect a saving in the dressing charges, which in consequence of the disseminated nature of the ore in its matrix are necessarily heavy. The sales of lead for the last two or three months have been about 40 tons per month. He does not think this rate can at present be maintained, but when more ore ground is opened upon, as pointed out in his observations on the underground workings, then profitable returns, he hopes, will be resumed. He considers the mine is well worked, both underground and in the dressing department, and every economy consistent with efficiency is being practised by the manager and his agent and subordinates to keep down the expenses as much as possible.

Capt. Wm. Hancock and Wm. T. Bryant report that during the 12 months the ground sunk and driven was—in engine-shaft, 14 fms.; winzes, 41 fms.; levels, 190 fms.; cross-out and rises, 20 fms.; stopes, 924 fms.; and stripping down branches, 50 fms. They are sorry they cannot present a better report, owing to the deeper levels not turning out so far anything like they calculated on; hence the returns have much fallen off the last three or four months. At the last meeting they really thought, from the appearance of the mine then, they would have been able to have earned a good dividend (and being shareholders themselves regretted they could not do so), but they are quite satisfied they have done the best they possibly can under the circumstances—bought all materials in cheapest markets, as cost-sheets will show, and returned all the ores they possibly could; in fact, had the mine been all their own they would not have returned so much, when materials and labour were almost to their highest pitch. And in future they recommend to sample only when they have a cargo for a vessel—say, 50 or 60 tons; they would then be able to take it down to Wadebridge in open wagons instead of oaks or sacks. By doing this it would effect a great saving, taking one thing with the other into account. In conclusion, by continuing their present operations—sinking the engine-shaft and driving the levels; this will no doubt shortly again open out some good bunches of rich ores, which they have every reason to believe exist; and the shareholders may rely on it the cost will be kept as low as possible in every department, having a due regard to the proper working of the mine. At the last setting-day they made a reduction in several of their men and boys. Number of hands now employed in and throughout the mine—underground, including pit and timber men, trimmers, filers, &c., 115. At surface, including smiths, carpenters, sawyers, landers, ore dresser, owners' account men, and men and boys on floors, 64; total, 179.

The CHAIRMAN said he would formally move the reception and adoption of the reports and accounts, and then, having made a few remarks upon the position of their affairs, he would be very happy to answer any questions which might be put.—Mr. GIBSON seconded the motion.

The CHAIRMAN then said the balance sheet now presented was not so satisfactory as the directors could wish, inasmuch as they had been put to a very large and unavoidable expenditure in the first place; and, secondly, they had not realised so much for the ore raised, and therefore they were not in a position to recommend the payment of a dividend; but the mine is in a very good state, and he really hoped that they had now got to the end of their expenditure. But it appeared to him that there was no end to the expenditure, for there was always something wanted. The directors had endeavoured to keep down the expenditure as much as possible, but in this year it had been considerably more than in last year. On the debtor side there was nothing requiring comment, nor was there any need for

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ROCK-DRILLS.—Messrs. R. HOSKING and W. BRAKEWELL, Dalton-in-Furness, have patented some improvements in rock-drills. The cylinder is adjustable on bed-plate by screw in connection with cylinder piston. The cylinder has piston rod with two pistons; between them there is an annular piston forming the slide valve. There are no springs, ratchets, or tappets. The drill hole is made by continued blows. A particular kind of tool or chisel is described.

for fork and the 30 m. level in six or eight weeks from this date. But the grass has been made in the 20 end east, the ground being difficult to cut. The engine and everything connected there works well, and the consumption of coals for this month is not so great by 30 tons, or over, as in December. The ground is covered with snow, which interferes with the dressing in our neighbouring

Some of the men and boys are so well seasoned to this work that it is generally believed that they are arsenic proof. The present high price of this article has come compensated for the low price of tin by the increased price of their arsenic. At New Great Consols about 150 tons of arsenic per month are being made, yielding over 90 per cent. of fine arsenic. At West Wheal Seton, on Monday, about 90 tons of crude arsenic were sold at the rate of 8l. 10s. per ton, realising over 750l. At the last sale, a few months ago, the same quality arsenic fetched only 3l. per ton.

SALE OF WHEAL CORYTON MINE, MACHINERY, &c.—This mine sett, with the machinery thereon, in St. Neot, was offered for sale by public auction by Mr. E. Richards, auctioneer, on Thursday. The attendance of bidders was not large. After some time the lot was purchased as a going concern by Capt. Joseph Cook for a nominal sum, in consequence of the purchaser having to pay for the land damages, &c. It is stated that the mine will at once be spiritedly worked by a new company.

SOUTH FRANCES.—The engine-shaft is being sunk with considerable speed to reach the West Bassett rich lode. Already a flat branch of capel has been cut, so that it is evident the shaft is getting down into the neighbourhood of the flat lodes. This point is being watched with considerable interest, as an important discovery may be made at very short notice. There are also very strong reasons for believing that the West Bassett flat lode has not yet been seen in West Frances Mine.

CORNISH MINE SHARE MARKET.—During the week the share market has been dull and depressed, and prices have fallen considerably. But very little actual business has been done, prices in several instances receding with small fluctuations. It is thought that the most of the week a feeling of vague fear seems to have prevailed, and the enquiry of "What are things going to?" has been heard often rather than at all pleasant. At the close, however, prices have become a little firmer, and shares have been more enquired for at the present low rates than more business, too, has been doing again. The tin market continues quiet. At West Tolgus, on Tuesday, a profit of 826l. was shown on the two months' working, and a dividend of 26s. per share was declared; 577 tons of copper were sold; shares have declined since the meeting to 59, 60 from 64 to 66. A pleasing feature amidst receding prices is the great rise in the price of arsenic; at West Seton, on Monday, it brought 8l. 10s. per ton as against 3l. per ton for the same quantity at the previous sale; this sale amounted to over 750l.—rather a nice feature. Copper is bringing a good price now. At this present time great care should be used by the "managing powers" in economising as much as possible in the working of our mines. Everything used should be weighed and measured, and a correct account should be kept of the amount of coals consumed at each engine. A writer to us this morning, who should be well informed, says—"For a long time the coal trade in Cornish mines has been almost entirely monopolised by a few of the large companies, which have also the monopoly of the tin trade in the county. In many mines the same company which supplies the coals, timber, &c., buys the tin, so that the business really amounts to an exchange of coals for tin. Outsiders, or those outside the charmed circles, have not had a chance, even though they have offered coals cheaper, and of a better quality. Wretched bad coals at high prices on the one hand, and dissatisfaction as to the price of tin on the other hand, have resulted from this arrangement. Adventurers should see to this. Adventurers, in these days of difficulty, if not real danger, should attend meetings. Adventurers should pull together, import their own coal & Capt. Teague is doing at Tincroft and Carn Brea, and if their agents do not satisfy them, change for better." At West Bassett the employees have had a week's notice to leave; at the end of the week they will be taken on again at a reduction if they choose to accept it. Although the miners are not much overpaid, they cannot grumble after their own proceedings when mining was brisker. Mining men are carefully noting the working of the Darlington drill at Wheal Agar, and if it proves successful it will, no doubt, be used in most of our mines. With or without two exceptions, all the Carnveor and Illogan mines are well in work, and taken altogether, have not looked better than they do now for a considerable time past.

The following are the closing prices:—Botalack shares are nominally 55 to 60. Carn Brea, called 37½ to 42½, but there is nothing doing in them. Cook's Kitchen shares are rather more enquired for at 7 to 8. Dolcoath, 42 to 43, in more demand, East Pool, 10½ to 11; at the coming meeting it is expected a good profit will be shown. At the last meeting the adventurers were well pleased at the contract with the shareholders' sale for the tin lode at 15s. per ton; will they congratulate themselves on its existence now? East Lovell, nominally at 4s. to 6s. Providence, called 5 to 5½. Rosewall Hill shares have been a little dealt in at 4s. to 6s. South Carn Brea, steady, at 18s. to 20s. South Condurru, dull, 4 to 4½. South Crofty, quiet, 10 to 11. South Frances declined to 2, 3—a terrible fall, equal to a drop of 300 or 400 per cent. in a few weeks: are the adventurers afraid of impending calls and calls? In Tincroft shares a little business has been done down to 21, 23. West Bassett, 6 to 6½. West Frances, 9 to 9½; at the meeting Capt. Josiah Thomas stated that he did not think the tin lode in the cross-cut from the 144 was the West Bassett flat lode, as by his calculation the tin would not have 14 fms. more to drive; but Capt. Josiah allowed the stuff was like that of West Bassett lode, and different from West Frances lode; he also allowed a slight alteration in the direction of West Bassett lode would account for the 24 fms., as the West Bassett lode has not been seen for 300 fms.; the cross-cut driving 12 fms. above will prove whether or not the discovered lode is the West Bassett lode; if it is not, all the better for West Frances, as they still have that lode to cut. West Seton, 8 to 10; the committee appear to be very keen on the height. West Rosewall for 9500l., and 4000l., 8s. for 600 tons, making 9500l. altogether. At Wheal Mary Ann a little sale, on Tuesday, a splendid nearly new 70-hp. pumping engine, with four boilers worth 5000l., only brought 10000l.; had West Seton committee only waited a day longer, how much better they might have done is now patent to everyone. West Tolgus, a little dealt in and close 59 to 60. Wheal Jane, 4½ to 5. Wheal Kitty (St. Agnes), 4½ to 5. Wheal Pevor, moderately dealt in, 4½ to 5. Wheal Ull, 2½ to 2½.—West Briton.

BRENTWOOD BRICK AND COAL COMPANY.

A prospectus of an association having the above title has just been issued, and, from its clear and full statements of facts and figures, it appears to offer very great advantages to investors. The object of the company is to purchase and conduct a commercial undertaking at Brentwood, Essex, for the purpose of manufacturing bricks, tiles, drain-pipes, and the usual articles manufactured from brick clay of superior quality; and for the further purpose of receiving coal by rail, and distributing it over a district where none is produced, and especially to the town of Brentwood itself.

It is easy for the public—at all events the Essex and London public—to determine how far these objects are feasible and profitable. Brentwood is at an easy distance from London, and as part of the great metropolis in Essex, London men have frequent business in the county, and it is known very well to East Londoners and to City men.

As to the brick manufacturing part of the business, supposing the bricks and their cognate articles to be completed, the question for an investor is, *ab initio*, "Is there a market?" Well, Brentwood is a rising place, likely to increase, and able to consume a large quantity of such manufactures. Besides, the comfortable towns and villages within available distances are numerous, and Essex agricultural will require drainage material, as it is one of the most thriving counties, as the Essex people themselves say, "out of the shires." Essex people have a singular prejudice for what is produced in their own county, and the farmers seldom leave it except to come to town, and a man who has been "up in the shires" is looked upon as quite a travelled man. There can be little doubt of the Essex people generally giving a preference to their own productions, from "an Essex calf" or a quarter of wheat, to the materials for building a house or farmstead, or the drainage of a marsh.

Moreover, the London market is immediately at hand, the greatest market for such manufactures in the whole world. Slates are in some places solely used for roofing, as in Dorset, North Wales, Cork, Limerick, &c. Zinc is used in France, Belgium, and Poland. But let anyone ascend an eminence and look down upon the house tops, and he will say London is like a Freemason's lodge, "tiled."

No city in the world is using so many bricks as London; all stone-faced buildings are built with bricks, and the highest compliment you can pay "a Cockney" is to call him "a brick." Well, there is no one who can doubt that the products of a brick property at Brentwood will find sale in London. There is a wide market, at all events, and a rich one, and a facile one, for Brentwood is next door to the metropolis; we can almost smell in the City the fumes from the Brentwood brick fields. This is all very well the investor will say; but are there materials to make the bricks, or are the Brentwood brickmakers like the Israelites under the yoke of Pharaoh, asked to make bricks without straw. Essex has plenty of straw if they were wanted so much in modern brickmaking; but the very plain straightforward fact is, that the property is a most admirable one for yielding the materials of the products that are intended to be brought to market.

The area of the property is about 23 acres, 2½ of which are occupied by railway sidings—more of them anon. The rest is mainly occupied by clays of all the useful varieties known to the brick-makers; in fact, millions of bricks have been sent to the London market from this. Now, an intelligent public company will bring all the new appliance into use known to the trade anywhere, and the chemical and mechanical knowledge necessary to the complete blending of material so as to make an article that is marketable; in fact, bricks, like the Essex damels, of "good colour and durable." Essex men are hospitable, but slow; they are wedded to their customs in brickmaking as in other things, if like the snail in nothing else. The Essex men, if of slow progress, and always carries his house on his back. A company intelligently formed like this will awaken new energies in the neighbours, and make the neighbours "lep o' Day Boys" without losing their steadiness and loyalty. The material is there extensive, rich, and ready, and this company is composed of men who know how to use it.

With regard to the coal business in connection with the brick

Col. Ludlum to continue washing, and he anticipates favourable returns when the run is completed. The shares have been in demand

all the week. Birdseye Creek, 2½ to 2¾; the agent is still washing steadily, and will be able, he expects, to make a clean-up at the end of this month. Sweetland Creek, 2 to 2½; the water question is still unsettled, and until a new arrangement is made with the water companies the mine will be idle. Gold Run, ½ to 1; the latest advices appear in another column.

New Pacific, ½ to ¾; from the report in another column it will be seen that the agent has leased the mine to a party of tributors on terms satisfactory to the company; there appears to be some misapprehension in the minds of shareholders, judging from communications which have reached us respecting the meeting of the Pacific Company summoned for Monday next; it is, perhaps, as well to mention, therefore, that the Pacific Company is in liquidation, and must not be confounded with the New Pacific Company; they have no connection with each other except that the New Pacific Company is working a mine formerly belonging to the Pacific Company, now in liquidation.

Cape Copper shares have risen to 32, 33; transactions have been recorded at 33½. New Quebrada, 3½ to 3¾. Panulcillo, ½ to 1½; Rio Tinto, 9 to 10. Russia Copper, 2½ to 3½.

Van, 23 to 24; the cross-cut through the lode in the 90 ft. level is progressing steadily. The 60 west is somewhat improved. Other parts of the mine as last reported, and looking well. Van Consols, 1½ to 2; Asheton, 1½ to 1¾; Grogwinion, 3 to 3½; good progress is being made towards effecting the communication between the intermediate and other levels. The rise and winze are in good order. Wye Valley, 3 to 3½; the 10 per cent. dividend is now due. Heavy snowstorms and hard frost have hindered dressing operations, but a parcel will be got ready directly the weather breaks. Pennerley, 1½ to 1¾; the report in another column shows the mine as presenting a very favourable appearance, and showing indications of improvement in several places. The sale on Wednesday, 80 tons of lead, realised 1220. There has been a slight enquiry for the shares during the week. Bog, ½ to ¾; the mine is looking very encouraging. The ends driving are all in ore, and the ground very easy for progress. The severe weather is interrupting surface operations, both at this mine and the others in the neighbourhood.

Wheal Pevor shares have been enquired for upon a favourable report, which appears in another column.

Subjoined are the closing quotations:—
Ashton, 1½ to 1¾; Bog, ½ to ¾; Carn Brea, 42 to 44; Dolcoath, 44 to 46; Devon Great Consols, 2 to 2½; East Caradon, 1 to 1½; East Lovell, 6½ to 7½; Great Laxey, 11 to 12; Hingston Down, ¾ to 1; Marke Valley, 1 to 1½; Merley, 1½ to 1¾; Parys Mountain, 8s. to 10s.; Penstruthal, ¾ to ¾; Penryn, 12½ to 13½; Tankerville, 8 to 9½; Tincroft, 23 to 25; Van, 23 to 24; Van Consols, 1½ to 2; West Chiverton, 2½ to 2¾; West Basset, 5½ to 6½; West Tankerville, 12s. to 21s.; Wheal Grenville, 4 to 4½; Almaden and Tinto, ¾ to ¾; Birdseye Creek, 2½ to 2¾; Cedar Creek, 11 to 16; Chantale, 7 to 9 to 16; Colorado Terrible, 3½ to 3¾; Cape Copper, 32 to 33; Don Pedro, ¾ to ¾; Emma, 1½ to 1¾; Flagstaff, 3 to 3½; Gold Run, ½ to 1; Independence, 3 to 3½; Last Chance, ¾ to ¾; Malpas, ¾ to ¾; Malabar, ¾ to ¾; New Quebrada, 3½ to 3¾; Richmond Consolidated, 1½ to 1¾; Rica, ¾ to ¾; St. John del Rey, 27½ to 28½; Sweetland Creek, 2 to 2½; Sierra Buttes, 2½ to 2¾; South America, 11s. to 13s.; Teoma, 1½ to 1¾; United Mexican, 3 to 3½; New Pacific, ½ to ¾; Blue Tent, 5 to 5½; Holcombe Valley, ¾ to 1; West Esgrail Leat, 2 to 2½; Eberhardt and Aurora, ¾ to ¾.

COLLIERIES AND IRONWORKS.—The shares chiefly dealt in during the week have been—Bilson and Crump, Great Western, Thorp's Gawber, Chapel House, Newport Abernethy, Ebbw Vale, New Sharlston, Andrew Knowles, and British Collieries. Glynwylm, Cleef Hill, United Bituminous, and Bonville Court have been offered, but we do not hear of any buyers. New Sharlston shares have been offered (closing 5 to 6) on the issue of a statement preceding the annual report to the effect that the half-year's working has resulted in a loss. Crown Preserved Coal, 4½ to 5; Bilbaon Iron, 46½ to 47; Henry Briggs, 2½ to 2¾; West Cumberland Iron, 9½ to 10½; Sheepbridge Coal, 24½ to 25 prem.; Silstone and Dodworth, 28½ to 29½; John Bagnall, 5½ to 6; Chillingham Iron, 5½ to 6; Ebbw Vale, 20 to 20½; Earle's Shipbuilding, 16½ to 17. The payment of an interim dividend of 10 per cent. on the amount of capital paid up to the end of December has been decided upon by the directors of the Milner's Safe Company; shares are ¾ to ¾ prem. At the South Wales Colliery meeting to-day the report was adopted, and a dividend of 15s. on the old shares and 13s. 7d. on the new shares sanctioned. The output of coal as compared with the previous year shows an increase of about 10,000 tons, "attributable to the increased output of the company now possesses." Alltani Colliery, 5 to 5½; Chapel Marbella Iron Company states that the profits for the year amount to the sum of £13,000. 12s. 7d., out of which the directors propose a dividend of 5 per cent., to be carried forward. The output for the year has amounted to 55,339 tons, showing an increase over the previous year of 15,840 tons. The Darlington drills are in developing the galleries, from which eventually a large addition to the output may be expected. The percentage of metallic iron improves as the mining operations deepen. In reference to the damage caused to the pier at Marbella by the steamship M. Moxham, the directors, having been advised by eminent counsel that the owners are liable, have commenced proceedings in the Admiralty Court. The management expenses appear somewhat heavy. Nearly 2000l. are absorbed in salaries, and the directors' fees amount to 1133l. 8s. 4d. The directors of the early to their annual report, in which they state that, as the result of the half-year's working, there is a balance on the wrong side. The directors of the New Zealand Manganese Mines (Limited) announce a dividend of 2s. per share, or 10 per cent., on the capital of the company.

At Swansea Ticketing, on Tuesday, 935 tons of copper ore, all of which, with the exception of 12 tons, was from the Cape Copper Company's Mines, were sold, realising 24,492l. 16s. The particulars of the sale were—Average standard for 9 per cent. produce, 102l. 10s.; average produce, 31 13-16; average price per ton, 26l. 3s. 10d.; quantity of fine copper, 297 tons 9 cwt. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore-copper.
Feb. 9	1095	£103 3 0	24½	£20 7 10	16s. 5d.	£22 6 6
Feb. 9	935	102 10 0	31 13-16	26 3 10	18 5	£22 6 6

Compared with the last sale, the decline has been in the standard sale on March 9.

The BECHWORTH GOLD MINING COMPANY has been formed, with a capital of 200,000l., in shares of 2l., to purchase for 110,000l., and more extensively working, the mining claims of the Sons and Dog Creek, Beechworth, Victoria, Australia. It is reported that there has been spent upon these properties for purchase, shafts, and machinery over 75,000l., and the returns have already amounted to over 200,000l., of which 35,000l. has been obtained from the Doma Mung and considering the interest which he has received upon the moneys advanced to pay for machinery, &c., he has himself received over 30,000l. in dividends. He also 600 tons of gold, and within four months about double that amount, from the proceeds of which one-half would be profit, may, in his opinion, be safely reckoned upon (only 10,000l.) to clear off the whole of his interest, to be taken in fully-paid shares of 2l. each, and the remainder, if payable in cash, shall be left in the hands of the directors for not more than 12 months. Attention is called to the fact that the alluvial beds are old river beds, and that the lead being sunk on and found that the lead would naturally trend downwards, or dip slightly in going towards shafts—one close to the upper boundary—and it is from above this point only that one mile from this point, and the lead in the workings is as rich as at No. 1 shaft; and while now good profits on the working are being made, any development is being found in opening out the lead to secure very large returns. The prospectus will be found in another column.

METAL TRADE.—Mr. Ernest W. S. Murrant, having resigned his position in the office of Messrs. James and Shakspeare, of Austinians, and established himself as a Licensed Broker of the City of London, he will always be glad to execute commissions in the Metal Market.

BIRMINGHAM (BLAKELEY HALL) COAL AND IRONSTONE COMPANY.—It is stated that the overdue interest on the coupons will be paid forthwith on presentation.

GLAISDALE WHINSTONE QUARRY.—One of the directors has just returned from visiting the quarry, and has expressed himself perfectly satisfied with the progress made at the works. We hear that a dividend is likely soon to be declared. The manager is pushing forward operations in the most praiseworthy manner. Stone is in great demand, and large orders are on hand. Anyone paying a visit to the quarry will at once be satisfied of its permanence. Shares are wanted, and much enquired for.

We understand that, notwithstanding the late prolonged strike in the Forest of Dean, the directors of the Bilson and Crump Meadow Collieries Company (Limited) will recommend at the annual meeting of the company, early in March next, the payment of a dividend at the rate of 12 per cent. per annum, leaving a considerable balance in hand to be carried forward.

The directors of Milner's Safe Company (Limited) have just decided on the payment of an *ad interim* dividend at the rate of 10 per cent. per annum on the amount of capital paid up to Dec. 31. The dividend warrants are now ready with regularity and ease through the hard tin capels. The miners already look upon the machine as the greatest boon ever conferred upon them; 21 feet 6 inches were bored and blasted by last night's men, nine holes at once being fired by

electricity, which has also become highly appreciated by the men. Large rocks of tinstone are now being sent up from the bottom of shaft. Another machine will be put to work next week in the 170 ft. level in a good lode of tinstone.

THE ROYAL SCHOOL OF MINES.—Mr. Evans, F.R.S., President of the Geological Society, in his anniversary address at Burlington House, on Friday, commented on the rumour that the Government thought of separating the Royal School of Mines, Mining Record Office, Geological Survey, and Museum of Practical Geology, now united under one kindred roof at Jermyn-street, and stated that he believed he expressed the opinion of the society that such a change would be a source of deep regret; that the usefulness of these institutions would be impaired, their facility for imparting information readily almost destroyed by their separation, and especially if taken "to the not very central position of South Kensington;" and that he trusted that if more space were required, considering the magnitude of the national interests connected with these institutions at stake, it would be found in the neighbourhood of the present Museum, at whatever cost might be necessary. On Thursday the Duke of Richmond and Lord Sandon visited the Museum of Practical Geology and the Royal School of Mines, and carefully inspected as well as inquired into the working of each department of those affiliated institutions. The last official visit of the kind was made in 1858 by the late Marquis of Salisbury, the Lord President of the Council in Lord Derby's Government of that date.

IRON IN THE UNITED STATES.

We have on more than one occasion called attention to the remarkable collapse—we can employ no other expression—which has occurred during the last two years in the American demand for our rails. In 1872 we sent the Americans railway iron to the extent of 467,304 tons; in 1873 we only forwarded rails in the same direction to the extent of 186,300 tons, and in 1874 the exports had further shrivelled into 94,466 tons. There has been no improvement or rally in the American demand this year; the figures for February are, of States 2376 tons of our railway iron, the corresponding exports of January, 1874, having been 7444 tons, and those of January, 1873, 27,838 tons. The cause of this contraction in the American demand has been generally attributed to the JAY COOKE panic, which broke out in September, 1873, and the effects of which still linger in the American business world. No doubt this JAY COOKE panic exerted a very adverse influence upon our iron relations—and especially our railway iron relations—with the United States; but, after all, the great obstacle in the way of our doing a large and remunerative business with the Americans in the matter of iron during the last two years has been the sharp reduction which has taken place in American iron quotations during that period. The price of English rails has certainly fallen upon the American markets, but American rails have declined in price in a still more rapid ratio. Thus in January, 1873, the price of American iron rails was from \$77½ to \$85 per ton currency; the JAY COOKE panic had forced prices down to from \$60 to \$65 per ton currency in December, 1873, and the reduction continued during 1874, until in December last the current quotation was only \$49 to \$55 per ton. The reduction of 40 per cent. here indicated in the price of American iron rails during the last two years has clearly had a very decided tendency to check our rails among our once highly valuable Transatlantic connection. The fact is tolerably clearly established that if the British iron trade was adversely affected by the JAY COOKE panic the American iron trade was still more severely crippled by it, and was obliged to force a sale, by means of very considerable concessions in the matter of prices, of even a materially reduced production. Our steel rails are still in some request among the Americans, and especially as regards the American railroads which enjoy the most solid credit. But even in the matter of steel rails the pressure of American native competition is now severe. In January, 1874, American steel rails stood at \$108 to \$110 per ton currency; in December, 1874, they were obtainable at \$72 to \$75 per ton currency. British ironmasters they approach the American markets they find that they have to lower their terms quite as fast as their British opponents, and perhaps even a little faster.

It is not only the JAY COOKE panic which has afflicted, and still afflicts, the commercial interest of the United States, but the nation is crazed with fantastic theories about finance and business; property is not sufficiently protected; and political warfare is carried on with a bitterness which seems to reduce the country, more or less, to the verge of civil war every day. In 1861 a deadly civil war actually broke out—a war which only terminated with the almost complete exhaustion of one of the parties to the quarrel; and towards the close of 1874 we had something of a demonstration of armed force on the part of the North in the wretchedly-governed State of Louisiana. Louisiana has been the home of bad faith, and if we are to believe General SHERIDAN, it has also been the headquarters of assassination. The military intervention of the Federal authorities may have been a stern necessity, but it is none the less a regrettable illustration of the ignorant lawlessness to which no considerable portion of American society is reduced. How can a country thrive in which such lawlessness prevails, and in which ideas which produced the POTTER confiscation law solemnly enacted by the State of Wisconsin find favour? Until the Americans show a firmer adherence to the laws of credit as recognised in Europe we fear that the many troubles which have afflicted them of late will still continue.

COAL AND IRON IN THE UNITED STATES.—Last year no English railway iron was brought into the United States, except on the Pacific Coast, while some Bessemer steel rails were admitted under the name of iron. The price of foreign rails declined in the United States in 1873 from \$72 per ton to \$58 per ton. In December, 1874, the same price had receded to \$50 per ton. In January, 1875, the price of American iron rails ranged from \$77½ to \$85 currency; it declined to \$60 during the same year, and in December, 1874, it had further receded to \$49 to \$55. Steel rails are reducing the cost of maintaining the permanent way of the Philadelphia and Reading Railroad. In 1873 the quantity of steel rails taken from the main track was 12,504 tons; last year the corresponding total was 7682 tons. The shipments of Cumberland (Maryland) coal amounted last year to 2,323,195 tons, showing a decrease of 241,559 tons, as compared with 1873.

* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains:—Original Correspondence: Iron Industries of Durham and Northumberland (R. Meade); Coal for Birmingham; Iron and Coal in New South Wales (R. Adams); Rock Drills (H. Waddington, C. Harwood, T. A. American Mine Agents; Amendment of the Patent Laws (F. W. Campin); Cornish Mining (C. Bawden); Wetherston Traction Engine; Successful and Unsuccessful Mining (S. Clarke); East Brookwood and Bruchets Copper Mine, Buckfastleigh (J. Clarke); Javali Mine—Registration of New Companies—Foreign Mining and Metallurgy—Gold Quartz Mining and the Sierra Buttes Company—Industrial Progress of Victoria—Foreign Mines Reports—Patent Matters, &c.—Meetings of the English and Australian Silver Plume, New Hobb's Hill, South Princes Patrick, Glen Clewyd, South Great Work, Kirk Michael, West Tolgus, North Pool, Phosphor Bronze, Bayse Consolidated, Marbella Iron Ore, Alderley Edge, Gunnislake, Unity Wood, and Van Ralway Companies.

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12,000 TONS of HEMATITE ORE.
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TWO SILVER-LEAD SETTS. Nominal prices.

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I BUY at the highest prices:—
LEAD ORES.—LEAD-SILVER ORES.—SILVER-LEAD ORES.
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GOLD AND SILVER ORES.
ZINC AND LEAD ORES MIXED TOGETHER.
Particulars by letter.

ARMAND FALLIZE, Ingénieur, à Liège (Belgium)

RICHARD P. ROTHWELL, C.E., M.E.,
MINING AND CIVIL ENGINEER,
27, PARK PLACE, NEW YORK.

Vice-President of the American Institute of Mining Engineers; Member of the American Society of Civil Engineers; of the North of England Institute of Mining Engineers; of the Geological Society of France, &c., &c.; Editor of the Engineering and Mining Journal, New York.

Reports on Mineral Properties, and on the Working and Management of Mines. ADVISES AS TO THE VALUE OF AMERICAN MINING STOCKS AND INVESTMENTS.

A thorough technical education and long practical experience in Mining in various parts of Europe and America, enable Mr. ROTHWELL to give SAFE ADVICE; and his position as Editor of the leading Mining Paper of America affords him unusual facilities for knowing the ACTUAL VALUE of American Mining Securities and the standing of companies.

References: The Presiding Officers of the American Institute of Mining Engineers, and the American Society of Civil Engineers.

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PURSUANT to a Decree of the High Court of Chancery, made in a Cause INGHAM against RICHARDSON (1875 15), the CREDITORS of JAMES STANFIELD, late of Tottenham, in the county of York, who died in or about the month of November, 1874, are, on or before the 22nd day of March, 1875, to send by post, prepaid, to WILLIAM SAGER, of Tottenham, in the county of York, the solicitor of the defendant, Hannah Stanfield, the administrators of the deceased, their Christian and Surnames, addresses and descriptions, the claims, a statement of their accounts, and the nature of the securities (if any) held by them, or in default thereof THEY WILL BE PEREMPTORILY EXCLUDED FROM THE BENEFIT OF THE SAID DECREE. Every creditor holding any security is to produce the same before the Vice-Chancellor Sir James Bacon, at his Chambers, situated No. 11, New-square, Lincoln's Inn, in the county of Middlesex, on Wednesday, the 7th day of April, 1875, at Twelve o'clock at noon, being the time appointed for adjudicating on the claims.

Dated this 12th day of February, 1875.
JOSHUA BIRD ALLEN, Chief Clerk.
EDWARDS, LAYTON, and JAMES, 8, Ely-place, E.C., agents for Holroyde and Smith, Halifax.

A GENTLEMAN, of superior education and considerable mercantile experience, wishes for a SITUATION in a PRIVATE FIRM or PUBLIC COMPANY. Three foreign languages. No objection to go abroad. Address, "E. D.," MINING JOURNAL OFFICE, 26, Fleet-street, London.

MONEY.—FOR SALE, FIVE PER CENT. DEBENTURES in December.
For £300 in a COAL AND IRON COMPANY, redeemable early in December.
Tenders to J. H. SMITH and Co., Accountants and Auditors, Adelphi House, 75a, Strand, W.C.

SMALL COLLIERY FOR SALE IN SOUTH WALES, at present nearly paying working costs. Royalty very low. Area 213 acres. Close to railway. £10,000 would purchase and place in paying position. For full particulars, apply to HARVEY, JORDAN, and Co., Mining Engineers and Agents, Accountants, &c., 30, Moorgate-street, London, E.C.

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FOR SALE, A VALUABLE COLLIERY, also containing large deposits of FIRE CLAY, and valuable IRONSTONE; or PARTNERSHIP entered into.
Address, "H. C.," MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C.

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A GOOD SMALL CONCERN FOR DISPOSAL, now belonging to a Private Gentleman, and making a net profit of over £150 per annum, which with small additional outlay may be greatly increased. Particulars may be obtained on application to—
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TANK LOCOMOTIVES, double 9 in., cheap, strong, and well finished; portable ENGINES, from 4 to 30 horse power—always ready, or in forward state, with or without winding or pumping gear; vertical ENGINES and BOILERS, of improved design.
Apply to—
LEWIN, POOLE WORKS, DORSET.

SOUTH AURORA CONSOLIDATED MINING COMPANY (LIMITED).

Notice is hereby given, that the FOURTH ORDINARY GENERAL MEETING of the proprietors of the South Aurora Consolidated Mining Company (Limited) will be held at the offices of the company, No. 17, Abchurch-lane, in the City of London, on WEDNESDAY, the 3rd day of March, 1875, at Two o'clock in the afternoon, for the election of directors in the place of those retiring in rotation, the election of auditor, and for the transaction of the other general business of the company; but, inasmuch as the accounts have not yet been received by the Board from the manager of the company in Nevada, the meeting will be held *pro forma* only, and adjourned for a period of three months, in order to admit of the accounts being obtained. Due notice of the adjourned meeting will be given.
By order of the Board,
CHAS. CADOGAN, Secretary.

Dated this 22nd day of February, 1875.

LEAD ORES.			
Date.	Mines.	Tons.	Price per ton.
Feb. 17	Port Nigel	40	£13 5 6
	—Caldbeck Fell	14	9 15 0
	—ditto	20	13 17 6
19	Powell Consolidated	21	15 8 0
20	Nantlago	20	14 12 6
21	Willoughby	15	15 2 0
23	Fordale	100	24 11 0
	—Tan-y-Bwlch	50	15 5 6
	—Tan-yr-Alit	10	15 0 6
24	Pennerley	50	15 5 0

BLENDE.			
Date.	Mines.	Tons.	Price per ton.
Feb. 25	Talargoch	20	£3 3 6
	—ditto	30	1 15 0
	—ditto	30	1 15 0

BLACK TIN.			
Date.	Mines.	Tons c. q. lb.	Price per ton.
Feb. 17	Ped-an-droes	13 10 1 20	£55 0 0
	20—So. Condurrow	19 15 2 9	—

AUSTRALIAN TIN ORE SOLD IN LONDON on Feb. 24.
3 tons 13 cwt., at 56l. 2s. 6d., to R. E. Michell and Co.

VRON UNITED (IN LIQUIDATION).—At the meeting yesterday (Friday), Capt. A. B. Brown in the chair, a statement of accounts was submitted. A dividend of 10s. in 1/ was ordered to be paid to the creditors. The liquidators were authorised to take proceedings against defaulting shareholders. The property has been sold to Mr. Southey for 1100l., and a new company formed, in which the shareholders in the late company are to be offered an interest upon equal terms.

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Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

BYRN TUN MINE.—Will some reader oblige by informing me to whom application should be made respecting this mine?—A SHAREHOLDER: Aberdeen, Feb. 19.

MINING COMPANY, NEDERLAND.—Can anyone interested, or anyone among your many correspondents, vouchsafe a little information as to the present condition of the celebrated Caribou Silver Mining property of Colorado, U.S., which was elaborately diagramed in your Journal last April?—PYRITES.

YELLOW BRAZING SOLDER AND SHEET BRASS.—"B." (Leeds).—The purchase could be made through any of the London metal brokers; but, unless very large quantities were required, it would probably be more advantageous to apply to a merchant. Messrs. Pelly, Boyle, and Co., Allhallows Chambers, Lombard-street; Lazarus and Sons, Great St. Helen's (perhaps the best); or Peat, Chattock, and Co., Upper Thames-street—would no doubt supply on satisfactory terms.

BLOWPIPE ANALYSIS.—"H. K." (Truro).—There was an excellent translation of Scherer's little book made by Mr. W. T. Blandford, and published by Messrs. Williams and Norgate.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

Received.—"S. G."—"W. T."—"Reader."—"A. B. C." (Kenneway).—"Shareholder" (Van Consoles) should write to the office—"R. W." We always recommend an exchange of references before transacting such business—"P. P."—"Inventor." Probably next week—"Miner" (St. Just).—"P. E." We shall be glad to have the particulars—"M. E."—"H. O."—"P. P."—"W. R. P."—"D. O. D." The letter of Mr. Thos. Treeweke is too personal; and we could not afford reference to election matters—"T. W." (Glasgow).—"Shareholder" (Lovel).

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

AMERICAN SUBSCRIBERS.—In reply to several enquiries, it may be stated that subscribers in the United States can be supplied with the *Mining Journal*, post free, at the price of \$8 50c. gold per annum, payable in advance, by remitting to Mr. D. Van Nostrand, publisher, and importer of scientific books, &c., Murray-street, New York; or, direct to our Office, 26, Fleet-street, E.C.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, FEBRUARY 27, 1875.

THE LABOUR LAWS COMMISSION.

The Commissioners appointed in March last for enquiring into the working of the Masters and Servants Act, 1867, the Criminal Law Amendment Act, and the law relating to conspiracy, have sent in their report, signed by all excepting Mr. MACDONALD. It will be recollected that during autumn the Commissioners gave in a preliminary report with special reference to the Masters and Servants Act, and to which we drew attention at the time, pointing out with respect to the evidence taken that the administration of the law was most unequal in different districts. What was required, we said, was greater uniformity in the magisterial decisions, the appointment of stipendiary magistrates to ensure the confidence of the workmen, or the power of appeal to a higher and more popular tribunal. The necessity for such a change in the carrying out of the Act of 1867 as we indicated has been apparent, it would appear, to the Commissioners from the changes they suggest. They say—

"From a careful observation of the cases of conviction under this Act which have taken place at Petty Sessions, it certainly appears that the Act has been misinterpreted and misunderstood in many points, and that many of the convictions, if made the subject of an appeal, would, in all probability, have been quashed, for we find cases where imprisonment in case of a fine imposed has been awarded for a longer period than the law allows."

With regard to Sect. 14, which is a penal one, involving imprisonment to the extent of three months, the Commissioners consider it should be at the option of a party complained against under that section "to claim to be tried by a jury, when the case should be remitted to the Petty Sessions." It is also recommended that under certain circumstances where imprisonment is inflicted as a civil remedy only, a party so ordered to be imprisoned should not be committed to the House of Correction, but to that part of a prison where debtors are usually confined. But it is evident from the report that the opinion of the Commissioners is in favour of the Bill being entirely remodelled, for they say the 4th and 9th sections might be amended with advantage. There appears to have been considerable difference of opinion with respect to the 14th clause of the Masters and Servants Act, which is the one most opposed by the leaders of our Trades Unions. It relates to "injury inflicted on person or property, or misconduct, misdemeanor, or ill-treatment of an aggravated character," and gives the power to imprison in cases where no pecuniary compensation would meet the circumstances of the case. Some of the members of the Commission thought that a sufficient remedy would be found for prevention of breaches of contract of an aggravated character by civil proceedings instead of by criminal law, as by giving Justices power to commit for any period not exceeding six months, in the event of compensation awarded not being paid, such imprisonment to be in the civil prison, and without hard labour. Other members, however, were of opinion that the law as it now exists under the 14th section should be maintained. Being nearly divided, the views of both sides were left to the consideration of the Legislature. We believe that the Act will be much modified and greatly improved by the alterations suggested by the Commissioners, although they do not go far enough for at least one section of those most deeply interested.

The Criminal Law Amendment Act was then considered by the Commissioners, and the evidence carefully analysed. The Act is a very brief one, but undoubtedly somewhat intricate. It includes the using of violence to any person or property, or molesting persons with a view to coercing them. It also includes picketing by following a person from place to place, and watching or besetting the house where such person resides or works. The term of imprisonment is for any period not exceeding three months, with or without hard labour. Every provision is made on behalf of the accused not suffering from bias, for it is enacted that a person who is a master, father, son, or brother of a master in the particular manufacture, &c., shall not act as a member of a court of summary jurisdiction or appeal for the purposes of the Act. The Commissioners, whilst admitting that the law is exceptional, only state the fact when they say that the Acts which have called it into existence are also exceptional. Admittedly there may have been two or three cases where the law has been rather too tightly strained, but from the few appeals that have been quashed it is evident that the law taken altogether has been fairly administered. With regard to picketting it was admitted that such might be really necessary and innocent, as, for instance, when a Union was on strike it would be requisite to see that men receiving pay from it as being on strike did not take work, and thus defraud the body. Such a case, however, could not be looked upon as penal, seeing that there was no molestation. With regard to this important law the Commissioners considered

there was no necessity for its repeal, as they believed it was useful and necessary for the purpose of securing the independence and rights of those it was intended to protect. Still, they considered it would be an improvement if, instead of the present appeal to the magistrates in General or Quarter Sessions, the option was given to the party complained against of taking the case to Quarter Sessions to be tried by a jury. This decision, we believe, will be most satisfactory, although, of course, it will not be so received by the party who have so long been clamouring for its entire repeal.

The Law of Conspiracy has been put in a less favourable light than the other two previously mentioned by the ruling of Mr. Baron POLLOCK at the Leeds Assizes, last year, when he ruled that if a number of men combined and refused to work for an employer unless he discharged a certain workman that such was conspiracy within the meaning of the Act. The report of the Commissioners states—"There can be no possible doubt of the right of each individual not bound by contract in the exercise of his own free will to refuse to employ or to work for or with anyone to whom he objects." This is certainly a common-sense view of the rights of an employer or workman. The Commissioners also

"Recommend that legislative provision should be made to the effect that no person shall be liable to be indicted for conspiracy by reason only of the object of the combination being to force or control the action or will of any master or workmen in any matter relating to the mode of carrying on his business or work, unless the means of coercion to be resorted to shall be one of those mentioned in the Criminal Law Amendment Act, or the wilfully breaking or procuring others to break any contract of hiring and service, and unless the object of such coercion shall be one of the purposes set forth in the Act."

From the above resume of what the majority of the Commissioners recommend to the Legislature, it will be seen that the proposals are framed in a spirit of great fairness towards the working classes, and it is to be hoped will be received in the same manner.

IRON AND STEEL MAKING IN ENGLAND AND AMERICA.

The description which we published last week as given by a Staffordshire ironmaster of what he found going on in the several ironworks of the United States during his recent visit to that country must have been read with very great interest by many of our subscribers. Notwithstanding the semi-panic that it was attempted to get up some time back about the introduction of American bar iron into Liverpool, the English ironmaster has not to dread the competition at home from his Transatlantic competitors. The competition of American with English ironmasters in Transatlantic markets is, however, another question and of that competition the proprietors of mills and forges in Great Britain have had disagreeable knowledge for some time past. But a matter of scarcely less significance has directed attention to the make of iron and steel in the United States. We all recollect with what surprise it was learned during the last sitting of the Iron and Steel Institute that the American steelmakers were accomplishing with Bessemer plant that which even the foremost steelmakers at home had been unable to effect. More steel, it was then made known, was being produced in America in a given time by the same machinery than had been practicable here. Other circumstances relating to the inventive and manipulating activity of the American iron and steel masters have since come to the knowledge of the proprietors of mills and forges and steel foundries at home, and they have contributed to largely increase the interest expressed here in what is being done yonder.

The English iron and steel masters are, therefore, materially aiding the industry to which they belong when by personal inspection they make themselves familiar with what is doing in America; and, with the same frankness that United States ironmasters throw open their works for the Englishman's advantage, themselves upon returning home publicly disseminate the information which they have gathered. The necessity that we should thoroughly understand how in the New World the Bessemer converter is made greatly more effective than here pressed itself upon the iron and steel masters, and had its share in inducing Mr. I. LOWTHIAN BELL to undertake the American tour, from which we have yet much to learn. Recognising that it is not only in one respect that America has exhibited something more than ingenuity in the production of iron and steel, English ironmasters must be gratified with intelligence of a more miscellaneous class. Without going over the ground which our report of last week will be admitted to have so well covered, it is worth while to point out that in a more perceptible degree than can be noticed in this country the Americans use up their scraps, alike of iron and steel, directly that they are made. That crop ends of rails should be quickly rolled down into flat bars by the Americans is nothing extraordinary. We apprehend that there are few makers of iron rails in this country where this has not been done almost as long as iron rails have been made. We have personal knowledge of one concern where the practice has been adopted certainly for 15 years. But the thrusting of crop ends as they are brought warm from the saw into a Siemens gas furnace, and then into a mill at an opposite side of the furnace, reducing them to steel wire, is by no means so general an operation in this country. Again, the practice of utilising iron and steel in the making of finished articles affords facilities for the economical use of what would prove of little profit, and is usually cumbersome about the works. This thrifty employment of scrap made in their own mills contributes very greatly to the aspect of trimness which most of the mills and forges in America present. Economy is likewise practised in the forges of certain American works by the using of Lake Superior ore for "fix." The Lake Superior ore is there ground up, mixed with a little water, and then knocked round the puddling-furnace in the proportion of 4 cwt. to 1 ton of iron. By these means it is possible to puddle iron with a loss of no more than from 2 to 5 per cent. At CARTWRIGHT, McCURDY, and Co.'s, at Youngstown, Mr. CARTWRIGHT, who went from Shropshire when he was a boy of some 12 years, and is now producing splendid hoop iron, has by the use of this fix carried on his forges for two years with not more than 2 per cent. loss. In our own country it rarely happens that we can get to as low a percentage as 8; our waste is more often from 10 to 12 per cent.

The more we know of it the quality of the products of the American mills and forges enforces respect in England. The hoop iron we have just mentioned is made to bear a tensile strain of 1½ in. to the foot, and it sometimes elongates to 2½ in. Mr. MOLINEAUX tested two pieces each a foot in length. One stretched to 14 in. and the other to 13½ in. before breaking, yet these were hoops of the ordinary quality of the place. Sheet-iron of the quality which is turned out in some of the American mills, we think we are correct in saying, has not yet been produced in the United Kingdom. With it it is possible to stamp out a bell-shaped goblet with its round shank and flat circular bottom all in one piece. The richness of some of the American ores, and the nearness of the deposits to the timber, thereby enabling very fine charcoal-iron to be made, no doubt in great part accounts for the admirable quality of the iron produced in many American iron-making localities. But the Americans by no means rely upon the advantages with which nature at this early period of their industrial history has supplied them. They have adopted the very best known appliances alike as to furnaces and mills for obtaining superiority. Whether all this will ultimately pay remains to be seen. It may prove that they will realise only a sovereign for their expended guinea. Nevertheless, much which they are doing excites the admiration of the travellers from the Old Country who are acquainted with the iron and coal industries at home, but if the traveller is of much experience in those industries he will not despair. Profiting by what he has seen he will return to England, and better fit himself for gaining money by making iron for America. His facilities for producing vast quantities of ordinary qualities at moderate prices should enable him to find a market there for many years to come. Still, it must not be forgotten that we shall be able to do but little with America unless we can manufacture at moderate prices, for it will be a long time before the American iron and steel producers will have lost the fiscal advantage they now possess by reason of the high tariff levied in that country upon our own contributions. An augury of the improved demand impending is, in our view, to be found in the recent extraordinary demand for tin-plates for the American markets, a demand that has kept the tin-plate mills throughout the United

Kingdom busy for many weeks past, and which will keep some of them busy for many weeks to come, though there should be no cessation of orders from any other quarter.

RESULTS OF INSPECTION IN SOUTH STAFFORDSHIRE.

It is contended, in opposition to Mr. PLIMSOLL's proposals for the inspection of merchant shipping, that no beneficial results would follow, and that the spur imparted by inspection would be more than counteracted by the loss of the sense of responsibility on the part of owners, builders, and agents. Happily this assertion is no longer left to be decided on probabilities, for experience in cases sufficiently analogous for the purpose may be quoted to show that serious neglect, leading to great waste of human life, has been greatly modified by the steady supervision of a practical Inspector, conversant with the business of mining, and well acquainted with the district in which he is placed.

The South Staffordshire coal field long held an unenviable position amongst the coal-bearing districts of the kingdom, on account of the great sacrifice of the lives of miners. This arose from several causes, but the principal were the great dislocation of the strata, the unusual thickness of some of the seams, the fact that many of them were being worked a second, third, or fourth time; that many of the collieries were small, and in the hands of proprietors of great capital; and, perhaps not least of all, that the butty or contract system almost universally prevailed, its operation tending to perpetuate rude and primitive modes of working, and to begot a greedy system of mining. Without any desire to condemn the system wholesale, for it has the great advantage of affording energetic and prudent men an opportunity of rising in the social scale, there can be no doubt that the introduction of improved methods is far more difficult where the direct superintendence is in the hands of a class of ignorant men, distinguished from the working miners mainly by greater hard-headedness, which in the absence of cultivation usually leads to an obstinate adherence to old methods. The reports of the Inspectors have from the first pointed out these special features, and particularly the great loss of life due to the dislocation of the strata. Mr. LIONEL BROUGH, who succeeded Mr. WYNN when South Staffordshire and East Worcestershire were constituted a separate inspection district, was early impressed with this special source of danger, and in one of his first reports observes of the strata that "various conditions render mining in this district a more dangerous operation than probably in most other coal fields." In his report for the year 1857 he refers at length to the abundant prevalence in South Staffordshire of joints and slips intersecting the geological formations, to the great danger of the workmen; and he goes on to observe that "It is distressing to reflect that in South Staffordshire and Worcestershire by 'falls' alone 81 persons have been killed to obtain 6,000,000 tons of coal. This heavy mortality is at the rate of 13.5 deaths per million, whilst the average of all the rest of Great Britain from the same cause only arrives at 5.15. If, fortunately, this district had experienced the latter moderate proportion there would have been lost last year, in round numbers, only 31 persons instead of 81—a saving of 50 lives."

Such a source of fatal accident required great perseverance to grapple with it, for it was not to be met by mere general arrangements, but by increased vigilance in every separate colliery—and there are upwards of 430 in the district—and in every working place. Yet this great cause of deaths in the Staffordshire collieries has been effectually dealt with. The output of coal has considerably increased, but the loss of life has diminished in a remarkable degree. Mr. BAKER's last report states that for the first ten years of inspection the annual loss of life in the district averaged 162, in the next ten it fell to 107, and for the last three years, concluding with 1873, was only 88, whilst in 1873 it was 71. But the deaths from falls show a still more remarkable decrease. They averaged 106 a year in the five years, 1851-55; in the next five years they were 87; in the succeeding five they fell to 62; and from 1866 to 1870, inclusive, only averaged 56 each year. Since that time to the end of 1873 the average was 31. This statement remarkably contrasts with that quoted above from Mr. BROUGH for 1857. Then the deaths from falls of roof or side in the South Staffordshire district were computed to be 193 for every million tons of coal raised, now they are only 2.82. Mr. BROUGH's calculation, based on the then uncertain estimates of the coal yield of the district, probably on that account, made South Staffordshire look rather worse than it really was; but, making every allowance possible, the decreased loss of life from this cause is very great. So far from deaths from falls in South Staffordshire being, as then, considerably more than twice as frequent in proportion to the get of coal as in the whole kingdom, they are now rather less. In 1873 the deaths from this cause in the United Kingdom averaged 3.4 per million tons of coal raised; whilst in South Staffordshire 11,100,000 tons of coal were raised for 31 such deaths, or only 2.82 per million tons.

But whilst "falls" constituted in South Staffordshire the special ground of injurious comparison with other coal fields, the decreased loss of life from explosions and shaft accidents is equally striking. If we compare the totals in 1873 with those of 1857, the latter being comparatively a favourable year, this will be manifest. In the earlier year referred to there were 27 deaths in shafts; in 1873 the number was only 10. In the former year 23 lives were lost by explosions; in the latter only 4. Such results need no comment. The Inspector for South Staffordshire may disregard attacks made upon him when he can show so diminished a death-roll, and the Legislature which decreed the inspection and regulation of mines, the country which demanded that the miners' lives should be the objects of a distinct vigilance, and, above all, the working colliers who leave the light of heaven for the darkness where death always impends, will look to such results to determine whether legislative interference has been justified, or the special guardian of human safety has done his duty.

THE MINERAL INDUSTRIES OF VICTORIA.—We have been favoured as usual by the Secretary for Mines (Mr. R. Brough Smyth) with the official reports of the Mining Surveyors and Registrars for the quarter ending Sept. 30. The gold obtained during the period reported upon was from alluvial working 108,805 ozs. 6 dwts., and from quartz 170,245 ozs. 2 dwts., making 278,750 ozs. 8 dwts. in all. The quantity of gold exported during the quarter was 207,513 ozs. 3 dwts. The 259,997½ tons of quartz crushed yielded 163,263 ozs. of gold, or at the rate of 12 dwts. 13.41 grains per ton. The 9908 tons of quartz tailings and mullock yielded 1209½ ozs. of gold, or at the rate of 2 dwts. 10.60 grs. per ton. The 1622 tons of pyrites yielded 4396 ozs., or at the rate of 2 ozs. 14 dwts. 4.62 grs. per ton. The number of miners employed was 46,239. The continuation of Baron Ferd. von Müller's description of the new vegetable fossils of Victoria is given as an appendix.

IMPORTANT BORINGS FOR COAL.—Boring for coal is going on in the valley of the Severn, near Bewdley, and if found in any quantity it will have a very important influence on the future of the neighbourhood. Thin seams come to the surface in various parts of the district around, and these have even been worked to some extent, but the quality of the coal so obtained has been found fit for general use. Good brooch coal is said, however, to have been found many years ago on the Park Attwood estate, and various facts seem to favour the presumption that there are deposits of considerable value. The present borings are being made in the valley, near Dowles Brook, a little way above Bewdley. When the Crown lands here were sold some five or six years ago, the minerals were reserved, and we understand that Sir George Elliot has purchased the right of getting at those underlying a great portion of the old Crown property. An arrangement having been made with the Diamond Boring Company for several trial borings, operations were commenced two or three months ago. The machinery used is of a very effective kind, a traction engine, supplied by Fowler and Co., of Leeds, furnishing the motive power. It is proposed to carry the borings down to 80 or 900 feet, and half of that distance has already been accomplished. The boring-rod is, of course, tubular, and the tool for cutting the "diamonds" set on the rim, and is connected with the rod which can be driven to make 120 revolutions per minute. The specimen of the strata through which the rods pass is brought to the

surface when the rods are drawn, and where the ground is easy to work several feet are often brought out at a time. A current of water is forced down the tubular rods by a pressure-pump, and comes to the surface again on the other side, bringing away the small particles broken by the cutter, and clearing all hindrances to the effective working of the machine. The water, it is stated, is also useful in preventing the heating of the machine. So far, it is understood, the undertaking wears a favourable aspect. Its importance can scarcely be overrated, and if good coal measures are met with it will lead, no doubt, to a good deal of mining enterprise in the district around. The Severn Valley Railway passes near the site of the borings, and there is likely to be other railway development before very long.

COAL IN GERMANY.—An interesting report setting forth the condition and productiveness of saltworks, mines, and kindred establishments belonging to the State in Prussia in 1873 has been laid before the Lower House at Berlin by the Prussian Minister of Commerce. The portion of the report possessing most interest for this country is that dealing with the production and sale of coal, which shows that Germany is not unsuccessfully competing with the mines of neighbouring hitherto more favoured countries, and not only ousting the foreign rivals from her own markets, but also carrying the competition into theirs. The report states that in 1873 the entire field of industry covered by the report proved itself in a prosperous and flourishing condition. Notwithstanding the crash of Vienna, and the distressing effects which it produced upon all the Continent, the Prussian mines and iron and other works steadily continued their onward course. Of the total yield of mine produce raised by the State 83.24 per cent. is made up of coal, and of this quantity 80.16 per cent. is ordinary coal, and 19.79 brown coal and lignite. The output and sale of coal has made very appreciable progress in the hitherto neglected Eastern provinces, principally Silesia. The spreading railway network has supplied new means of export, and the mines of Upper Silesia now send their produce almost all over Germany, westward to Thuringia, Hanover, and Hildesheim, and northward to the shores of the Baltic, where they have succeeded in defeating our own competition. Silesia would supply Russian Poland likewise, but for the protective import duty levied by the Russian Government. The old-established collieries in Westphalia have kept pace with their Eastern rivals. The output has all but doubled within two years, rising in value from 31,300,000 to 61,500,000 thalers. Coal from the Saar mines—not long ago coveted by France—has gained a footing in the French markets, and is now exported as far as Châlons and Paris. The gross revenue from the Government mines, saltworks, &c., in 1873 was 391,894,688 thalers, against 344,499,751 thalers in the preceding year. That is an advance of 13.70 per cent. Of the sum total only 3 per cent. (1,862,958 thalers) was contributed by the saltworks, 60.5 per cent. (236,976,388 thalers) by smelting works and the like, and 39 per cent. (153,055,342 thalers) by mines. Mines have, however, made the most notable progress since 1872, the yield having advanced by 31.4 per cent., against 11.8 per cent. gained by saltworks, and only 4.7 per cent. by smelting and kindred establishments. The Minister is, at the same time, happy to be able to report a healthy progress among the mining population in the utilisation of benefit and co-operative societies, and also of reading-rooms, Sunday, industrial, and evening schools, and other educational institutions.

MACHINE COAL CUTTING IN YORKSHIRE.

Some time ago the Midland Institute of Mining Engineers appointed a committee of their members to examine and report upon the various mechanical arrangements now in use for under-cutting, or otherwise assisting in the operation of getting coal, and on Thursday last, in accordance with this appointment, a number of gentlemen visited the Wharfedale Silstone Colliery, near Barnsley, to inspect the operations of the machine invented and patented by Messrs. Gillott and Copley. It will be unnecessary for us to go into any detailed description of this machine, having done so on previous occasions, further than to remind our readers that it is on the rotary as distinguished from the pick principle, the cutters being firmly fixed in the periphery of a wheel revolving horizontally, and driven by a small engine on a travelling frame, actuated by compressed air. At this colliery three of these machines are employed, and we are informed that Mr. Bass, of Sheffield, who has arranged with the patentees for the sale and manufacture of them, has orders for others, which will shortly be at work there.

About twenty gentlemen went down the pit, including Mr. Peel, the viewer and underground manager of the colliery, and Mr. Bass, jun.; the former gentleman furnishing the company with the results of his experience in working the machines, while the latter was present to explain their construction, and how they could be adapted to meet the altered circumstances of other localities. The first visited was the Parkgate seam, this seam is about 5 ft. thick, and at 19 in. from the bottom has a dirt parting about 3 in. thick; it is this parting that the machine is employed in taking out, leaving clean coal above and below the cut. The machine working here is one of the first that was made, and travels along the coal face by means of a wire-rope attached to the front, and to a small crab at the far end worked by a man. The material cut is only soft, and the machine was timed to cut 9½ yards in 14 minutes, or at the rate of 40½ yards per hour, 3 ft. 3 in. and 3 ft. 4 in. under. Mr. Peel informed the company that this was about the average rate of working, the same machine having a few days previously cut 116 yards in one continuous straight face in three hours, including all stoppages occasioned by the necessary lengthening of the flexible tubing, laying the rails, &c.

The machine working in the Thin coal was then visited. This is a strong coal, and rests on a hard seating containing nodules of pyrites. The road here is laid with the outer rail higher than the inner, so that the cutting wheel of the machine, which at the coal face is working entirely in the coal, is at the back of the cut working in the seating; by this means in a cut of 3 in. thick only an average of 1½ in. of coal is lost. This machine is of more recent construction, and measures in length 5 ft. 6 in., height 21 in., and breadth 2 ft. 10 in.; it is self-propelling, being provided with a small drum connected to a ratchet wheel, which is driven by a connecting-rod off the end of the crank shaft; a small wire-rope is attached to a bridle in the front of the machine, and passes round a match-block at the far end of the face. It was explained that the usual rate of working this machine under the circumstances that it was then seen was about 22 yards per hour, and in measuring the distance after half-an-hour's working it was seen to have done 11 yards 1 foot, 3 ft. 4 in. under. Mr. Peel also stated that last week this machine cut in five days 495 yards, from 3 ft. 3 in. to 3 ft. 4 in. under. This was not all done at one face, the machine had to be moved to different faces in the same seam. We are informed that this is by far the best result of consecutive working that has yet been obtained by mechanical coal cutting. Considerable time was spent at this machine, as it was felt by many that it is in thin seams that the greatest advantage is to be derived; in fact, it appeared to be the opinion of some present that without machines the thin seams would to a considerable extent remain unworked, the objection of the men to work them is so great.

Mr. Bass here explained various improvements, principally in details, which he is introducing in the machines now making, and explained how, where necessary, although this machine is only 21 in. high, it could be reduced about 6 in., but in order to effect this there more room would be taken up in the width. In this colliery there are 1200 yards of face laid out for working by machines. The air-compressing machinery is ample, and is used for driving underground hauling engines, small pumping engines, &c., as well as the coal cutters. The cutting in each case is let at per yard, and this letting includes laying the roads, moving the machine from one part of the pit to another, sharpening the cutters, and generally keeping it in good working order. To do this constantly it requires three men in attendance. The breaking the coal down and getting it away is another letting at per ton; so, although the two gangs are entirely independent of each other, it is evidently the interest of the one to see that the other has his work done, so that the first is not hindered when he has completed his part of the work at another face.

A great deal of credit is due to Mr. Peel for the pains he has taken

and the ability he has displayed in overcoming difficulties and adopting from time to time, as he saw it necessary, certain modifications in his mode of working; so great a change as this cannot be made without meeting with many obstacles, often unseen, until they are met with in practical work in the pit bottom; some may be only small, but on the removal of even these may largely depend the successful introduction of machinery in such a place, and it is to this end that Mr. Peel, encouraged by the owners of the colliery, has devoted his attention to such good effect. The men are now perfectly satisfied with the operation of the machines, and would be very sorry to be without them.

MINING IN THE ISLE OF MAN—GREAT LAXEY.

The report upon the Great Laxey Mines by Capt. F. Reddcliffe, published in last week's *Mining Journal*, is an unanswerable reply to the charges made at the meeting in October last that the best judgment was not used in carrying on the operations. It will be remembered that Mr. Sherwood stated he had awaited until the meeting the result of the administration of the mine agents, Capt. Reddcliffe and Cornish, and that he had stated at the previous meeting that those two gentlemen were incompetent to get the mine out of the state of mismanagement it was then in, adding that the state of affairs did not arise from any falling off in the proceeds of the mine, but had arisen from the cost of getting the ores ready for market. Mr. Sherwood showed, moreover, that for several years past there had been a largely increased cost in the obtaining and dressing of the ores. Now, it is well known that in every mine throughout the kingdom there has been equal cause of complaint of increase of labour cost, and that this has arisen not from any shortcoming on the part of the managers, but from the general increase of wages which has been going on. The raisings, as Mr. Sherwood admitted, were much alike in quality, but all was, he said, swallowed up in the cost of preparation, &c. This was not exactly the case, but even assuming it to be so, the opposition raised by certain of the shareholders against the management certainly did not tend to increase the power of the agents to dictate more reasonable terms to the men. It was evident, however, from Mr. Sherwood's remarks that he had even in October discovered that there was less real cause for complaint than he had previously supposed, since for the first time he admitted that the party he represented did not complain of the work underground.

The circumstance mentioned by one of the captains that in the various ends the best ore had been removed before they assumed control will account for some little delay being caused in conducting necessary operations for development, but these were temporary difficulties, which required but a little time for their removal. This is now evident from Capt. Reddcliffe's report, which removes every ground for the assertion, which was perhaps thoughtlessly put forward at the October meeting, that the managers do not know anything about mining, and are incapable of developing the resources of the mine. Capt. Reddcliffe's report proves the mine to be in a most satisfactory condition, for taking the separate value of only those points referred to therein it will be found that a single fathom of ground from each point would amount to 12207. This is a fact that the attention of the shareholders and the public should be fairly called to, and although in such an extensive mine as Great Laxey, few would consider it safe to give a decided opinion, there is very general confidence that its present appearance and prospects fully justify the belief that it will long continue a very valuable property, and is a thoroughly sound investment.

THE MOLD MINES (LIMITED).

This company has lately been reconstituted for completing the opening up of a most important mineral property near the town of Mold, in Flintshire. The object is twofold—1. The erection of another pumping plant at the eastern end of the property to perfect its drainage during floods and wet seasons.—2. The opening of the valuable mine Gwern-y-mynydd, upon which this pumping plant is to be erected.—3. The completion of the great draining adit level through the entire property, to relieve it of surplus water in times of flood. At the western end of the property an extensive and powerful pumping plant was erected in 1869 on the Cathole and Pilkington Mines, which were kept effectually drained till October, 1871, when a run of floods and excess of rainfall continued over nine months, and interrupted operations in the lower and important levels. The carrying out of these works will undoubtedly place the property in a state of security for its full development; and though the pumping plant kept these mines drained in ordinary weather, it was considered necessary to suspend operations in order that means might be adopted for erecting another pumping plant at the eastern end, which, according to the best engineering authorities, will efficiently drain the whole property at all times and in all seasons, especially when the draining adit level is completed, which will take off the greater bulk of the surface water, and lessen the duty of the pumping-engines. This important work will certainly lay open productive ground. As it became apparent it was expedient to adopt this course, the directors felt that it was incumbent upon them to make the facts known to the lords of the minerals, and apply to them for a revision of the royalty in consideration of the circumstances and the needful erection of another pumping plant at the other end of the property to perfect the drainage permanently. After repeated representations it resulted in their reducing the royalty from 1-16th to 1-20th for the whole term, and suspension of royalty to the extent of 600 tons per annum till March 25, 1876. In addition to this a considerable grant of land, having an important lode, called the Deborah or North lode, has been added to the property, and will be included under a new lease. This is viewed as a valuable complement to the property for the new company.

It is most satisfactory to state that the western portion has been proved, with encouraging prospects of making profits, from which over 12,0000 worth of rich lead ore was raised. Consequently, when these mines are re-drained there are returns that can be calculated upon not only to meet the bulk of the cost but, according to the improving accounts of the main lode, to increase quickly for profits, therefore there is a greater degree of certainty for a safe investment in this undertaking than an untried property. The prospectuses and reports about being issued give a lucid account of the circumstances and facts of its suspension and prospects, which are authentic, as the policy of the directors was to withhold nothing from their co-shareholders, and, therefore, may be accepted as reliable.

There is unquestionably an important main lode proved in the bottom level, with strong indications of rapid improvement, which deserves to be fully developed. Another inducement why this property should be developed is the opening of Gwern-y-mynydd Mine, possessing a reputation for mineral wealth, and that large deposits or gulfs of lead ore will be opened, which in itself is a most important speculation, as from the past history recorded of its riches in the shallow workings, and its geological formation, it promises to give great and continued yields of rich lead ore. The directors have now authorised their brokers—Messrs. R. B. Smith and Co., of Angel-court, Throgmorton-street, who are connected with the London Stock Exchange, to invite subscriptions for the shares at disposal. Nearly one-third of the new capital has already been subscribed by the old shareholders and various friends of those interested, who believe that the basis upon which the property will now be put will prove an increasing and permanent investment. The advantages of investing in this enterprise are of a nature to command confidence in many respects—1st. That it is practically tested with a degree of certainty of coming into early profits, and that new investors will receive 10 per cent. in priority of the old shareholders.—2d. That a new lease will be granted free of dead rents, including a valuable grant of land, the Deborah Mine being added to the property, with a reduction of the royalty to 1-20th, besides a suspension of royalty to the extent of 600 tons per annum till March 25, 1876.—3d. That it is in the hands of a careful and reliable direction; and lastly, That an important element of strength has been added to the old direction by two gentlemen connected with the successful Minera Mines, who would not join in the enterprise if they did not think well of it.

It should be observed that the royalty is said to be the lowest con-

ceded to any company in Wales, and much lower than that of the Minera Mines, and it is prophesied by many that the Mold Mines will eventually equal their returns and profits. Another circumstance deserves to be noted, as it appears that the new pumping plant proposed to be erected on Gwern-y-mynydd may for expedience be as large as that at Cathole, but it will be much more easily accomplished, with much less risk, and in shorter time than this, which, though a difficult work, was carried through skilfully and most successfully. Taking into consideration the prospects, with all the advantages of the enterprise, there are at any rate very few undertakings of the kind that offer such safe security for a growing investment as this promises to be, especially on account of the experience gained of its mineral resources and pumping requirements.

In the Journal of Sept. 28, 1872, the following reference was made, after stating the excusable cause of suspension by increased and continued floods for many months:—

"The present (now late) company, if ably supported, will be quite capable under such a direction, who, having carried out the large works successfully at Cathole Mine (which was a very important and difficult work) will, with their increased experience, have the necessary plant erected at Gwern-y-mynydd with the same care and judgment. Few boards have given so much personal attention to an undertaking as this board has, and it is from no fault of theirs that success has not attended their efforts."

Great pains have been taken to represent the facts, and having known the reliability of the whole affair from the beginning of the late company, it is to be hoped that not only the entire new capital will be readily subscribed (of which, according to the estimates for the new work, not more than two-thirds of it are likely to be required), but that the reasonable expectations of the property may be realised.

REPORT FROM CORNWALL.

Feb. 25.—It really seems to be of no use whatever attempting to forecast in any way the condition of the tin standard. That there should be a fall is easily accounted for in the fact of the large deliveries of tin from Australia, sent home with a rush when the standard recovered a little last autumn, but it requires a rather extensive amount of credibility to imagine that anything like the falls that have taken place, with the prospect of perhaps more to come, are justly due to such a cause. We are told that things will be better by-and-bye, and in all likelihood they will, for we have never been disposed to lose heart in the inherent vitality of Cornish mining; but the question which a good many adventurers are beginning to ask themselves now is whether it can be worth their while to go on laying out their money, struggling on through times of difficulty and depression, to find when the sun begins to shine again the profit that should be theirs go into the pocket of somebody else. It is of no use, so far as this aspect of affairs is concerned, to say that the cost of working the mines should be reduced. Undoubtedly it can and should, and we hope that the trial of the Darlington drill now going on at Wheal Agar will help to show the way; but it is a very poor satisfaction to feel that the more cheaply tin is produced the less profit there is to be made of it. The adventurers are not in the position of sheep who have to lose a certain portion of their fleece only. The idea seems to be that they will be close trimmed, and the more wool they have the better for the shearers—that is all. Matters will never be better, for any lengthened period, until the mines smelt their own tin. True that even then they would not be able to avoid fluctuations and depressions, but their fates would at least be in their own hands. It would be no longer the sell or die, which is the only alternative presented to a mine which has neither capital enough nor pluck sufficient to enable it to stock, nor energy equal to the retention of its hold over produce which every effort is made to sweep into other hands.

It is a singular instance of the—not unnaturally—depressed state of feeling as to tin mining to find that more attention is being directed to copper mining, once the source of such enormous wealth to the county. There are not wanting, indeed, practical men who hold that the former state of things is not unlikely to return, and copper mining again assume the preponderance. No doubt the existence of this feeling is in no small degree due to the success which has of late attended West Tolgus, and there cannot be a question that copper mining has not of late met with the attention it deserves. It should, however, be borne in mind that copper is shallower than tin, and that the chief probability of the discovery of new and profitable copper mines lies in the development of new mineral districts, though there can be no doubt whatever that rich prizes still remain among the abandonments.

The slice of luck which Cornish mining is now enjoying is to be found in the high prices made by arsenic—that which a few years since was worth about 1½ a ton being now worth 6½ or 7½. The supply of arsenic in the district is practically inexhaustible, and some of the tin mines produce it in such large quantities that the enhanced price now received for it helps in no slight degree to make up for the reduction in the price of tin—East Pool for instance, where they are almost compensated for the low price of tin by the increased price of their arsenic. At New Great Consols about 150 tons of arsenic per month are being made, yielding over 90 per cent. of fine arsenic.

At West Seton Mine, on Monday, about 90 tons of crude arsenic was sold at the rate of 8½ 10s., realising over 7500. At the last sale, a few months ago, the same quality arsenic fetched only 3½ per ton. The committee appointed to procure the additional pumping-engine for West Seton have purchased the powerful 70-in. cylinder engine at North Roskear for the sum of 9750.

There has been a terrible explosion at the Unity Safety Fuse Works, near St. Day, which belong to Sir F. W. Williams, M.P. The works were fitted up with the very best machinery; they were carried out in the very best possible manner, with every kind of precaution, and yet on Saturday morning last, without the slightest warning, and from an entirely unknown cause, the powder in the upper room of the factory blew up, setting the whole place on fire. Four girls out of five who were working in the room were burnt to death on the spot; one leaped through a window, but was so much injured that she died on the following day. The others have escaped with life, but in the case of the foreman and one of the other girls with very serious injuries.

The St. Ives election petition came to an abrupt termination, Mr. Praed being unseated on the ground of general treating, with which, however, he was not connected. The allegations as to undue influence at Providence and St. Ives Consols were thus not enquired into.

It is stated that the question of the right of shareholders to inspect the books in cost-book mines will be carried before the Vice-Warden for decision by a shareholder who was recently refused to be allowed to do so. There can be no doubt of the legal right of a bona fide shareholder in this matter, but it would be very difficult to decide in some instances (we know nothing of the special merits of the case in controversy) whether there was any moral right or not.

There appears to be very little emigration just now from West Cornwall. There can be no question that great numbers of Cornish miners who have gone to America and other remote countries have now and then to undergo some most frightful hardships and privations. Within the past few days one who was for some time in the capacity of an underground agent in an extensive tin mine in Cornwall not long ago, wrote to his friends in St. Just from "Silver City," a very important mining district on the borders of California, and states as follows:—"I am doing the best I can to earn a living, but you have no idea what a fearfully barren and uncivilised country this is; in fact, I consider it fit only for wild beasts and Indians to live in. We are working now with the snow 3 or 4 ft. deep, and we have such fearful storms and biting winds, with sleet and hail pouring on us as we go to and fro to our work. Our habitations are just as one may expect in this country. We live in huts made of logs of wood, and planked up with boarding; but heaven only knows what we have to go through now and then. I have made up my mind to get out of this desolate region as soon as I have scraped together sufficient means to enable me to do so."

The Darlington Rock-Drill at Wheal Agar is working capitally, and there seems to be a determination on the part of the agents to make it a success if possible. Should these boring machines come into general use in Cornwall there can be but little doubt of a complete revolution being effected in the working of hard-ground mines. There are many mine agents anxious to see the result of the Agar experiment before introducing the machine into their own mines.

A very important improvement has taken place at St. Agnes Consols, the lode in the bottom level being now valued at 20s. per fathom. This is the more important as all the operations are in whole ground, and there is every probability of large quantities of tin being discovered at and above the present levels. The present discovery is the more acceptable to the shareholders as it was unexpected by most of them. The principal lode of the mine—Wheal Kitty lode—is about 20 fms. deeper than the lode on which the tin has now been discovered. The rich levels from Wheal Kitty are known to be driven very near the St. Agnes Consols boundary, and after leaving Wheal Kitty, traverse this set for its entire length. The parallel case to this existed in Cook's Kitchen and Tiscroft some

Mr. Smith Casson, the manager of the works, is to be congratulated on this success.

The South Staffordshire Mines Drainage Commissioners have commenced practical operations in right good earnest. They are now engaged in the work of lowering by 2 ft. the bed of the River Tame, which intersects the district, and also in puddling the sides of the stream. The Tame will be one of the main channels employed to carry off the drainage water.

To-day's quotations on the Birmingham Stock Exchange included the following:—Sandwell Park Colliery (10% paid), 33, buyers; Patent Nut and Bolt, 6 prem.; Ivy House and Northwood Colliery (Limited), 4 prem.; Cannock and Huntington Colliery (Limited), 4 dis., buyers; Birmingham Wagon, 19½; Gloucester Wagon, 18½; dis., buyers; Midland Wagon (50% paid), 95½; John Bagball and Sons, 6; Chillington Iron, 6, sellers.

The Finished Iron Trade of North Staffordshire is decidedly quiet. The mills rolling the general sizes of merchant bars of everyday consumption are averaging about eight turns per week. There is, as usual at this period of the quarter, only a restricted business doing in fuel and ironstone. Coal is in more plentiful supply, but prices remain as last quoted.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 25.—There has been very little change indeed with respect to mining operations in Derbyshire for some time past, but as a rule work goes on steadily and satisfactorily. In the lead districts the output of ore keeps at something like an average; and we hear of no new ground being broken into, as no great inducements are held out to capitalists, the same as in many other districts less rich in minerals. In the districts north and south of Chesterfield the business doing at the collieries is still moderately good, but by no means so brisk as it has been, and there is now every appearance of a reaction that must inevitably result in a reduction of colliers' wages. Prices of coal have declined considerably, and production is increasing at a rate that will make coal something like a drug. At the present time, despite the state of affairs in South Wales, coal is abundant both for exportation and home consumption, whilst at many places the supply has been so greatly in excess of the requirements that the result has been the standing of the wagons loaded at many stations. This has led to the stoppage of work, so that in some instances men have been obliged to play one and two days a week. From Clay Cross and Langley Mill a large tonnage of house coal is being sent to the metropolis, as well as from Tibshelf, Unstone, and Staveley. At the last-named place there is now considerable activity in the casting of pipes, for which the works have long been famed both at home and abroad. A very fair trade is also being done at Dronfield in malleable casting and Bessemer steel.

Trade in Sheffield is still under a cloud, and many workmen are on short time. The armour-plate mills have been doing very well of late, and there has been a fair out-put of ship and boiler plates. Some slight improvement has taken place with respect to Bessemer, and it is expected that in that branch at least increased activity will shortly take place. The coal trade of South Yorkshire is tolerably good, but prices are fast giving way, and will do more so as the weather gets milder. A great many new pits are being opened out in the district, all on a large scale, most of them being calculated to turn out something like 1000 tons per day. The wages question, to which I have alluded in previous reports as likely to be a bone of contention, has now assumed a serious aspect. The proprietors of the Monk Bretton Colliery have taken the initiative in the matter, and have given to each man the following notice:—"Feb. 24: Take notice that your services will not be required at this colliery after a fortnight from the above date.—J. Muckle, manager." A strong and exciting contest will undoubtedly be the result of the notice given, as the men are not likely to accede to any reduction, the Association being rich and numerically very powerful.

[For remainder of Business Correspondence, see page 220.]

HULL DOCK COMPANY.

NEW SHARE CAPITAL.

THE DIRECTORS are now RECEIVING APPLICATIONS for the ALLOTMENT of a LIMITED NUMBER of 250 SHARES. Early application should be made to the undersigned, from whom further information may be had. By order, G. W. DUMBELL, Secretary.

Dock Office, Hull, the 22nd of February, 1875.

Minimum dividends of 10 per cent. per annum guaranteed for the next three years, payable quarterly on the A fully-paid preference shares.

THE BRENTWOOD BRICK AND COAL COMPANY (LIMITED).

Incorporated under the Companies Acts of 1862 and 1867, whereby the liability of each shareholder is strictly limited to the amount of his shares.

No liability whatever to holders of fully-paid shares or share warrants.

All shares rank alike for dividend after the 10 per cent. is paid on the A shares.

Capital £25,000, divided into 12,500 shares of £2 each.

(With power to increase to £50,000).

6500 A fully-paid preference shares, £2 each, with guaranteed dividends of 10 per cent. per annum for three years: £1 per share on application, and £1 per share on allotment.

6500 ordinary shares of £2 each: 5s. per share on application, 10s. on allotment. Calls not to exceed 5s. per share, at intervals of not less than two months.

TRUSTEES.

T. S. PICKFORD, Esq.

W. SHEPPARD, Esq.

DIRECTORS.

EDWARD ROWE, Esq. (Messrs. Rowe and Co., Merchants), Brentwood, Essex.

W. WHITE Esq., Finsbury-place, E.C.

T. S. PICKFORD, Esq., Rood-lane, E.C., Merchant.

W. SHEPPARD, Esq., Ware, Herts.

H. HOLMAN SUCKLING, Esq., LL.D., St. Helen's-place, E.C.

BANKERS.

LONDON AND SOUTH WESTERN, 7, Fenchurch-street, and its branches.

SOLICITORS.

R. W. STACPOOLE, Esq., Finner's Hall, Old Broad-street

AUDITOR.

D. W. LAMB, Esq., 32, Wallbrook, E.C.

SECRETARY.

MR. H. THOMPSON.

OFFICES—15, ST. HELEN'S PLACE, E.C.

This company has been formed for the purpose of purchasing and carrying on a large commercial undertaking, situated at Brentwood, in the county of Essex, the site of which consists of a valuable deposit of fine plastic clay, well adapted for the manufacture of bricks, tiles, pipes, &c.; not only on account of the superior quality of the material itself, but also on account of the great advantage which the site affords for the carriage of goods.

The company, it is calculated from practical data, will be enabled to manufacture a large quantity of tiles, also bricks at the rate of upwards of 20,000,000 per annum, and at a cost of about 20s. per thousand, which will realise at least 10 to 15 per cent. profit, and considerably more on tiles.

This undertaking is absolutely free from anything of a speculative nature. The trade is done principally for cash. The cost of manufacture and the selling prices are upon a moderate and fixed basis, and cannot vary, except in a slight degree, thus the profits are ascertained with unusual exactitude.

The directors beg to call attention to the important fact that the shareholders at once enter into possession of an immediate dividend-paying property—there will be no waiting an indefinite period for returns, as the business is now in full working order, and capable of returning dividends from 10 to 20 per cent. on the capital invested.

Memorandum and Articles of Association, and copies of Contract, can be seen at the solicitor's office.

Prospectuses, plans, and reports may be obtained at the company's offices.

THE CREDITORS' PROTECTION SOCIETY,

OFFICES, 115 AND 119, CHEAPSIDE, LONDON.

The objects of this Society are:—To Protect the Interests of Creditors in all cases of Mercantile Failure; The Thorough Investigation of Debtors' Affairs; The Prevention of Fraudulent Debtors; and the Speedy Recovery of Outstanding Debts, without the risk of incurring heavy law expenses.

Full prospectuses forwarded on application to—

J. MARSHALL, Manager.

MINING MACHINERY AND MATERIALS FOR SALE,

comprising STEAM ENGINES, WATER WHEELS, PITWORK, and other MINE MATERIAL.—Apply to—

W. TREGAY REDRUTH

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the CARZISE MINING COMPANY.—The Registrar of this Court has appointed THURSDAY, the 11th day of March next, at Eleven o'clock in the forenoon, at the Registrar's Office, in Truro, TO SETTLE THE LIST OF CONTRIBUTORIES OF THE ABOVE-NAMED COMPANY, now made out and deposited at the said office. FREDERICK MARSHALL, Registrar. Dated Registrar's Office, Truro, February 23rd, 1875.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the MORVAH CONSOLS TIN MINING COMPANY (LIMITED).—TENDERS will be RECEIVED by the Official Liquidator of the said company, addressed to him at the Stannaries Court Office, in Truro, until the 6th day of March next, stating the HIGHEST PRICE which will be given for all the INTEREST of the company in the SETT under which its mining operations have been carried on at the Morvah Consols Mine, in the parish of Morvah, within the said Stannaries, and also for the 24-inch cylinder PUMPING and STAMPING ENGINE, and 8-ton BOILER thereon. Such tenders may be for the whole of the above, or for the engine and boiler alone. To inspect the above, apply to the Bailiff in charge at the said mine; and for further particulars to Mr. CHARLES WILLIAM CLINTON, the said Official Liquidator. HODGE, HOCKIN, AND MARRACK, Truro. (Solicitors for the said Official Liquidator.) Dated Stannaries Court Office, Truro, February 26th, 1875.

THE HAWKESVILLE ESTATE, CANNOCK, STAFFORDSHIRE—TO COAL AND IRON MASTERS, CAPITALISTS AND OTHERS.

MESSRS. RICE BROTHERS are instructed to SELL BY AUCTION, at the Mart, Tokenhouse-yard, London, on Wednesday, March 10, 1875, at Twelve o'clock precisely, the valuable and highly important COPYHOLD ESTATE.

Comprising about 40 acres of excellent arable and pasture land, with modern-built residence, extensive outbuildings, stabling, and large gardens, most advantageously situated close to the town of Cannock, within ½ mile of the Cannock Station, and adjoining the railway, affording facilities for a siding thereto. The mines of coal and ironstone underlying the estate are of the most valuable description, the adjoining collieries averaging about six seams, with a total thickness of 50 feet of coal. The extensive frontages which the estate possesses render it very desirable also for building purposes. Particulars and plans may be had at the principal hotels at Hednesford, Cannock, Rugby, Wolverhampton, Walsall, and Birmingham; of JOHN WATERHOUSE, Esq., solicitor, 28, Abchurch-lane, City; at the Mart; and of the Auctioneers, "The Factory Gazette" Offices, 2, Adelaide-place, London Bridge, City.

UNRESERVED SALE OF MINE MATERIALS.

MR. R. H. CADE has been favoured with instructions to SELL, BY PUBLIC AUCTION (without the least reserve), on Monday, the 15th March next, commencing at noon precisely, at FLORENCE CONSOLS TIN MINES, in the parish of Perranuthnoe, near Marazion, in the county of Cornwall, the WHOLE of the

VALUABLE MACHINERY AND MATERIALS

THEREON, COMPRISING

ONE 70 in. extra strong CORNISH PUMPING ENGINE, 10 ft. stroke in shaft, and 12 ft. in cylinder; with TWO BOILERS, about 12 tons each. ONE 30 in. CORNISH PUMPING and STAMPING ENGINE, with TWO BOILERS, 10 and 11 tons each, with working gear complete. ONE 20-horse power double cylinder ENGINE and BOILER, by Clayton and Shuttleworth.

At Walter's Shaft, a powerful 12 arm capstan, new; 10 fms. 9 in. drawing lift; 20 fms. 18 in. plunger lift; 16 in. pole, stuffing box, and glands, complete; 40 fms. 11 in. plunger lift, with pole complete; 70 fms. pinch pins, 14 in. and 15 in. square; 150 fms. 14 in. capstan rope; a large shears, and sheaves, new; 110 fms. 2½ in. round iron flat rods.

At Eliza's Shaft, 32 fms. 1½ in. iron rods; 18 fms. 2½ in. ditto; 1 spare 14 ft. 18 in. pole, with stuffing box and glands, complete; 1 spare 10 ft. 18 in. drawing lift, with bucket, 17 in. bucket and rods, complete; 5 fms. 3 ft. of 10 in. pumps; 18 in. sinking windbox, new; 370 fms. iron stave ladders; 1 double winch; pulleys and stands; 200 fms. 11 in. launders; 8 arm capstan, with 100 fms. ¾ in. capstan chain; balance bob; a shears and shieves, complete; 50 fms. 7 in. wood rods; 26 fms. 3 in. iron rods; 16 fms. 15 in. drawing lift; 10 fms. 15 in. drawing lift, with rods; 25 fms. ¾ in. chain, rods and pulleys, complete; 10 fms. 10 in. spare pitwork; 40 fms. 8 in. plunger lift, stuffing box and pole, complete.

A smith's shop, 2 bellows, anvils, smith's tools, a lot of new and old iron, carpenter's shed and tool house, with all extra mining materials, stores, &c.; miner's dry house, with tube and fire doors, complete, almost new; pay house; powder house; 50 fms. of zinc air pipes; a quantity of wood ditto. Dressing house; dressing floors; 28 stamps complete; 5 round boulders; 1 14 ft. bed revolving calisher; weighing machine, to weigh 8 tons; 100 fms. hemp falls, and a quantity of other stores; 3 horse whims, with kibbles and gears; horse whim chain; material house, and stores; 5 beams, scales and weights; 7 horse whim kibbles; 2 large water barrels; a quantity of spare materials; and the account house furniture.

The above engines and materials will be found of the best description, in excellent condition, and will be unreservedly sold in lots to suit the convenience of purchasers. The lots being numerous, a punctual attendance is solicited. For further particulars apply to Captain SKEWIS, on the Mines; or to the Auctioneer, Menage street, Helston.—Helston, Feb. 18, 1875.

ROCKS TIN MINE, ST. AUSTELL.

VALUABLE MINE MACHINERY AND MATERIALS FOR SALE.

TO BE SOLD, BY PUBLIC AUCTION, at Rocks Tin Mine, in the parish of St. Austell, in the county of Cornwall, by Messrs. HANCOCK AND SON, on Tuesday, the 2nd day of March next, at One o'clock in the afternoon precisely, the WHOLE of the

VALUABLE MACHINERY AND MATERIALS

on the said mine, comprising—ONE 29 in. cylinder rotary STEAM ENGINE, with two heavy fly-wheels; and ONE BOILER, about 10 tons. ONE small horizontal (donkey) ENGINE, by Wilson, Vauxhall, 1½ in. diameter, and 3 in. stroke. Four 12-head iron STAMPS AXLES, iron and wood frames and lifters, 48 stamp heads, drags, &c. Blake's Patent STONE-BREAKER, by R. Marsden, Leeds, with a cylindrical screen.

ONE 12 fm. 8 in. PLUNGER LIFT.

ONE 10 fm. 7 in. DRAWING LIFT.

ONE 9 fm. 6 in. DRAWING LIFT.

Iron rods, pulleys, stands and bobs, 7 Williams' patent and several other bobs, with gear work complete, shears, stays and shieves, wood houses and sheds, tin kieves, racks, iron winding cage for steam whim, horse whim, 40 fms. ¾ in. whim chain, other ditto, tram wagons, small boiler (about 2 tons), about 30 cwt. of new cast borer steel, miners' and smiths' tools, including 36 in. smiths' bellows, samplers' beam, scales, and weights (in glass case), blocks with chain, screwing stock, boring machine, a quantity of 2 in. and 1½ in. iron tubing, 4 in. cast pipes, Norway balk and other timber, wood hand pump, new and old brass, sleeve, copper bottom and other dressing tools, 21 tin bags, safety fuse, dynamite, crab winch, grinding stone, the castings of a direct acting patent steam stamps, and sundry other articles in general use in mines; also, the account house furniture.

Further particulars may be known on application to the Auctioneers; or of Messrs. HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Truro, Feb. 18, 1875.

ASHBURTON, DEVON.

FREEHOLD LANDED PROPERTY FOR SALE.

TO BE SOLD, BY PUBLIC AUCTION, at the Golden Lion Hotel, Ashburton, on Saturday, the 27th day of March, at Three o'clock in the afternoon (subject to such conditions as shall then be read), the free lease and inheritance of and in all that well-known TIN AND COPPER MINE, formerly called the

WHEAL UNION MINE,

Near the Stannary Town of ASHBURTON, consisting of above 88 acres, called "Storm's Down," in which various tin lodes have been worked for centuries by water power only, and very large quantities of tin, copper, and arsenic have been obtained. Tin is now in sight, ready to be brought out through a tunnel recently cut. There are also many other lodes known to exist, which have not yet been worked. Thirty-eight acres of the land are enclosed in fourfields for cultivation, and above nine acres are filled with fir trees, &c., of good size, suited for mining purposes. There are also TWO COTTAGES, and other mining requirements.

This valuable property is now to be sold on account of family arrangements, and is well suited for a company, or private individual. A great portion of the property could be worked with little outlay for machinery, and is within three miles of the Ashburton Railway.

For particulars, apply to S. P. KNOWLES, Esq., Highweck, Newton Abbot, where reports, plans, and specimens can be seen; to the Auctioneers; Messrs. BROWNE, Totnes; or to Messrs. WINDRETT and WINDRETT, Solicitors, Totnes and Ashburton.

COAL MINE FOR SALE.

TO BE SOLD, the CONCESSION of the COAL MINES of FIENNES, situate in the commune of FIENNES, canton de GUINES, arrondissement de BOULOGNE-SUR-MER (PAS DE CALAIS).

This concession extends over 4 square kilometres 81 hectares; it adjoins the Hardingham concession, at present in full work; it has already been worked, and several of the pits will still yield coal. The valley of Fiennes contains ten known strata, having together a power of 8 metres 45 centimetres. IT WILL BE OFFERED AT AUCTION, in the office of M. MEMBRE, Notary, 2, Rue St. Jean, Boulogne-sur-Mer (Pas-de-Calais), on Tuesday, March 23, 1875, at Twelve o'clock, A.M.—For conditions of sale and particulars, address M. MEMBRE, Notary, 2, Rue St. Jean, Boulogne-sur-Mer; M. DEWAVRIN, Notary, Rue Royale, Calais; or M. EMILE CAUDRON, Liquidator of the former Company of Fiennes, 10, Rue Taramini, Paris, having the conduct of the sale.

TO MANUFACTURERS, PATENTEES, AND CAPITALISTS.

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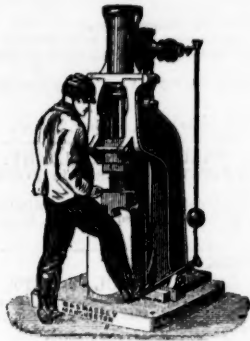
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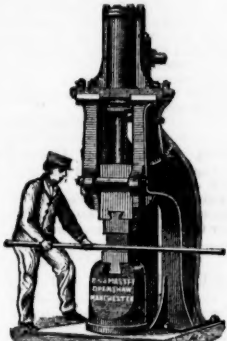
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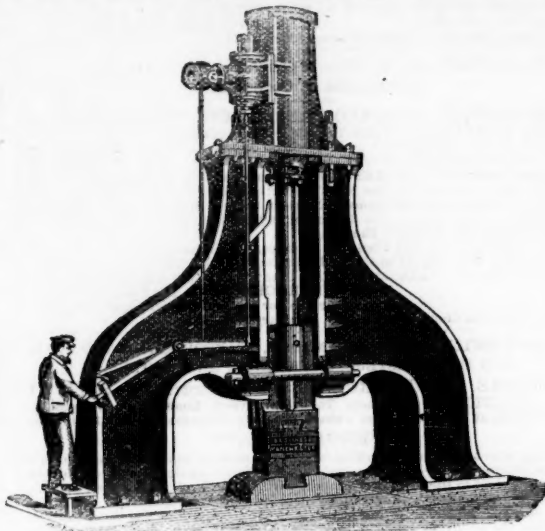
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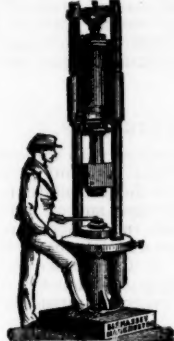
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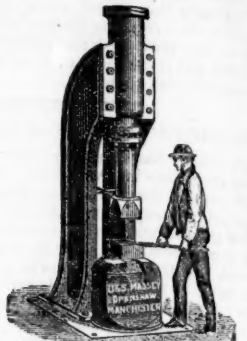
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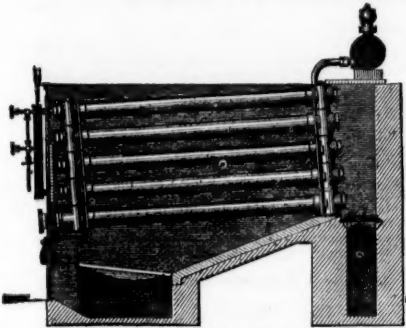


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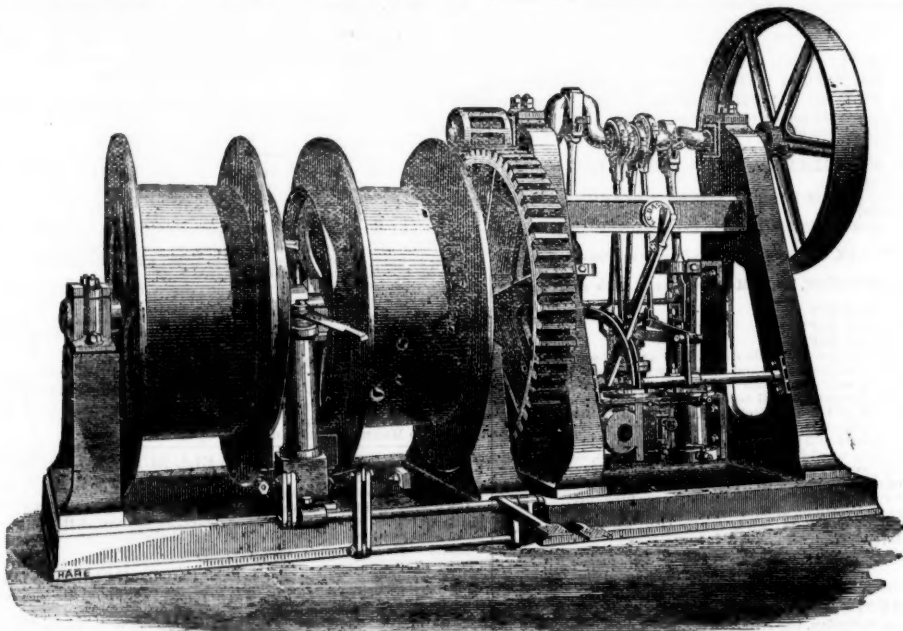
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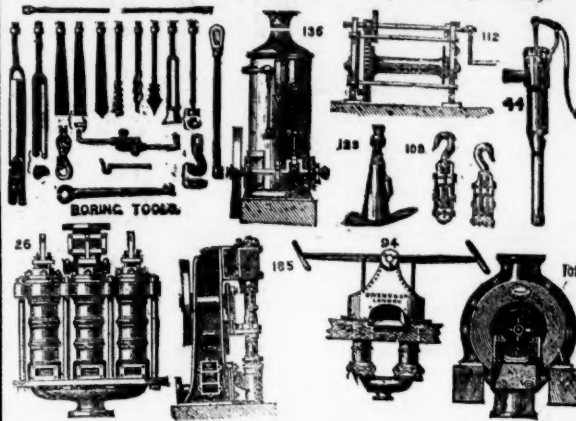
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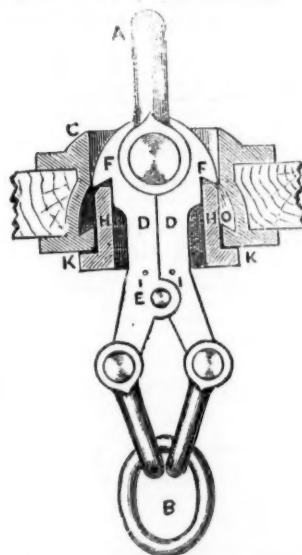
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